

2020



**Seattle
Public
Utilities**

Residential Garbage and Recycling Stream Composition Study



Prepared by



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- Seattle Public Utilities (SPU) – Solid Waste, Finance, Transfer Station Operations
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- CanDo – Collection carts for sampling
- Sky Valley Associates (SVA)
- Eco-Logica

LINKS TO PREVIOUS REPORTS

Earlier reports on Seattle’s residential garbage and recycling streams are available on the Seattle Public Utilities website.

RESIDENTIAL GARBAGE COMPOSITION REPORTS¹

[2014 Residential Waste Stream Composition Study](#)

[2010 Residential Waste Stream Composition Study](#)

[2006 Residential Waste Stream Composition Study](#)

[2002 Residential Waste Stream Composition Study](#)

[1998-1999 Residential Waste Stream Composition Study](#)

[1994-1995 Residential Waste Stream Composition Study](#)

RESIDENTIAL RECYCLING COMPOSITION REPORTS²

[2015 Residential Recycling Composition Study](#)

[2010 Residential Recycling Composition Study](#)

[2005 Residential Recycling Composition Study](#)

[2000-01 Residential Recycling Composition Study](#)

[1998/1999 Residential Recycling Composition Study³](#)

[1993 Residential Recycling Composition Study⁴](#)

¹ <https://www.seattle.gov/utilities/about/reports/solid-waste-reports/composition-studies>

² <https://www.seattle.gov/utilities/about/reports/solid-waste-reports/composition-studies>

³ This report is not available online.

⁴ This report is not available online.

TABLE OF CONTENTS

| | |
|-------------------------------------------------------------------|-----------|
| ACKNOWLEDGMENTS | 1 |
| LINKS TO PREVIOUS REPORTS | 2 |
| GLOSSARY OF TERMS | 6 |
| EXECUTIVE SUMMARY | 7 |
| OVERVIEW | 12 |
| 1.1 Objectives | 12 |
| 1.2 Sampling Universe | 13 |
| 1.3 Sample Allocation | 14 |
| 1.4 Sampling Calendar | 14 |
| METHODOLOGY | 16 |
| 2.1 Changes in Methodology from Past Garbage Study | 17 |
| 2.2 Changes in Methodology from Past Recycling Study | 17 |
| 2.3 COVID-19 Impacts | 18 |
| COMPOSITION RESULTS | 19 |
| 3.1 Presenting and Interpreting the Results | 19 |
| 3.2 Capture Rate | 21 |
| 3.3 Material Classification Schemes | 22 |
| 3.4 Overall Composition | 23 |
| 3.5 Composition by Residence Sector | 26 |
| 3.6 Composition by Seasons | 30 |
| 3.7 Composition by Zones | 38 |
| 3.8 Recycling Composition by Demographics | 46 |
| 3.9 Contamination in Recycling | 50 |
| TRENDS IN RESIDENTIAL GARBAGE AND RECYCLING DISPOSAL | 52 |
| 4.1 Trends in Garbage Tons Based on Study Years | 52 |
| 4.2 Trends in Recycling Tons Based on Study Years | 55 |
| APPENDIX A: SAMPLING METHODOLOGY | 57 |
| APPENDIX B: COMPOSITION CALCULATIONS | 65 |
| APPENDIX C: DEMOGRAPHIC CALCULATIONS | 69 |
| APPENDIX D: MATERIAL CLASSIFICATION LIST | 71 |
| APPENDIX E: RECOVERABILITY CLASSIFICATION | 80 |
| APPENDIX F: CONTAMINANT CLASSIFICATION | 83 |
| APPENDIX G: UNIFORM CLASSIFICATION | 86 |
| APPENDIX H: SAMPLING PROGRESS REPORTS | 90 |
| APPENDIX I: COMPARISON TO PREVIOUS STUDIES | 95 |
| APPENDIX J: DETAIL COMPOSITION TABLES | 99 |

LIST OF TABLES

| | |
|------------------------------------------------------------------------------------------------------------|-----|
| Table 1: Residential Garbage and Recycling Subsector by Residential Sector Type and Collection Zone | 14 |
| Table 2: Sample Allocation | 14 |
| Table 3: Sampling Calendar | 15 |
| Table 4: Example Detail Composition Table | 21 |
| Table 5: Recoverability Categories and Definitions | 22 |
| Table 6: Contaminant Classification Groups | 23 |
| Table 7: Uniform Material Classes | 23 |
| Table 8: Number of samples included in demographic quartiles | 46 |
| Table 9: Contaminant Material Types, by residential subsector | 51 |
| Table 10: Example Route Selection | 57 |
| Table 11: City of Seattle Residential Garbage and Recycling Tonnage (in Tons), 2020 | 65 |
| Table 12: Example Percent Composition and Confidence Interval | 68 |
| Table 13: Assignment of Material Types to Recoverability Class | 80 |
| Table 14: Assignment of Material Types to Contaminant Class | 83 |
| Table 15: Uniform Material Classes | 86 |
| Table 16: Material Classification | 86 |
| Table 17: Garbage Composition Changes and Trends, 1988/89 vs. 2020-21 | 97 |
| Table 18: Garbage Composition Changes and Trends, 2014 vs. 2020-21 | 97 |
| Table 19: Recycling Composition Changes and Trends, 2000 vs. 2020-21 | 98 |
| Table 20: Recycling Composition Changes and Trends, 2015 vs. 2020-21 | 98 |
| Table 21: Composition – Garbage | 99 |
| Table 22: Composition – Recycling | 100 |
| Table 23: Composition – Garbage – Single-family | 101 |
| Table 24: Composition – Recycling – Single-family | 102 |
| Table 25: Composition – Garbage – Multifamily | 103 |
| Table 26: Composition – Recycling – Multifamily | 104 |
| Table 27: Composition – Garbage – Spring | 105 |
| Table 28: Composition – Recycling – Spring | 106 |
| Table 29: Composition – Garbage – Summer | 107 |
| Table 30: Composition – Recycling – Summer | 108 |
| Table 31: Composition – Garbage – Fall | 109 |
| Table 32: Composition – Recycling – Fall | 110 |
| Table 33: Composition – Garbage – Winter | 111 |
| Table 34: Composition – Recycling – Winter | 112 |
| Table 35: Composition – Garbage – Zone 1 | 113 |
| Table 36: Composition – Recycling – Zone 1 | 114 |
| Table 37: Composition – Garbage – Zone 2 | 115 |
| Table 38: Composition – Recycling – Zone 2 | 116 |
| Table 39: Composition – Garbage – Zone 3 | 117 |
| Table 40: Composition – Recycling – Zone 3 | 118 |
| Table 41: Composition – Garbage – Zone 4 | 119 |
| Table 42: Composition – Recycling – Zone 4 | 120 |
| Table 43: Recycling Composition by Demographic Quartiles – Median Household Income – First Quartile | 121 |
| Table 44: Recycling Composition by Demographic Quartiles – Median Household Income – Fourth Quartile | 122 |
| Table 45: Recycling Composition by Demographic Quartiles – Average Household Size – First Quartile | 123 |
| Table 46: Recycling Composition by Demographic Quartiles – Average Household Size – Fourth Quartile | 124 |

LIST OF FIGURES

| | |
|--------------------------------------------------------------------------------------------|----|
| Figure 1: Summary of Composition – Overall Residential Garbage and Recycling Combined..... | 11 |
| Figure 2: Collection Zones..... | 13 |
| Figure 3: Example Composition Summary | 20 |
| Figure 4: Composition – Garbage and Recycling Combined – Overall | 25 |
| Figure 5: Composition – Garbage and Recycling – Single-family | 27 |
| Figure 6: Composition – Garbage and Recycling – Multifamily | 29 |
| Figure 7: Composition – Garbage and Recycling – Spring..... | 31 |
| Figure 8: Composition – Garbage and Recycling Combined – Summer | 33 |
| Figure 9: Composition – Garbage and Recycling Combined – Fall..... | 35 |
| Figure 10: Composition – Garbage and Recycling Combined – Winter | 37 |
| Figure 11: Composition – Garbage and Recycling Combined – Zone 1..... | 39 |
| Figure 12: Composition – Garbage and Recycling Combined – Zone 2..... | 41 |
| Figure 13: Composition – Garbage and Recycling Combined – Zone 3..... | 43 |
| Figure 14: Composition – Garbage and Recycling Combined – Zone 4..... | 45 |
| Figure 15: Recycling Composition by Demographic Quartile – Average Household Size..... | 47 |
| Figure 16: Recycling Composition by Demographic Quartile - Median Household Income | 49 |
| Figure 17: Trends in Residential Garbage Tons – 1988/89 to 2020-21 | 52 |
| Figure 18: Trends and Changes in Garbage Tons by Material Class – 1988/89 to 2020-21 | 54 |
| Figure 19: Trends in Residential Recycling – 2000/01 to 2020-21 | 55 |
| Figure 20: Trends and Changes in Residential Recycling..... | 56 |
| Figure 21. 16-Cell Grid Applied to Selected Loads..... | 58 |
| Figure 22. Sample Extraction – Recycling samples | 59 |
| Figure 23. Sampled Material with Sample Placard - Garbage | 59 |
| Figure 24. Sampled Material with Sample Placard - Recycling | 60 |
| Figure 25: Sample Sorting in Progress..... | 61 |
| Figure 26: Vehicle Selection Sheet..... | 62 |
| Figure 27: Sample Placard..... | 63 |
| Figure 28: Data Entry Form..... | 63 |
| Figure 29: City of Seattle Single-family Residential Routes by Demographic Attribute..... | 69 |

GLOSSARY OF TERMS

| | |
|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Garbage</i> | For the purposes of this study, "garbage" is defined as material put into the black garbage bin by single-family and multifamily dwellings and that is collected by two haulers contracted by the City. |
| <i>Recycling</i> | Material put into the recycling bin, or set aside on the curb, by single-family and multifamily dwellings and that is collected by two haulers contracted by the City. Recycling is defined by the way residents set them out, not by the composition of the material itself. |
| <i>Organics</i> | Material put into the organics bin, or set aside on the curb, by single-family and multifamily dwellings and that is collected by two haulers contracted by the City. Examples include food scraps, compostable food service items, yard waste, but may also include non-organic materials improperly placed in organics bins. |
| <i>Single-family</i> | Single-dwelling units, duplex, triplex, and four-plex homes. The contracted haulers collect garbage, recycling, and organics from carts set out on the curbside. |
| <i>Multifamily</i> | Apartments and condominiums with five or more units. The contracted haulers collect garbage, recycling, and organics from dumpsters and carts. |
| <i>Recoverability</i> | Classification scheme of potential to recover materials, either through City's curbside programs or through non-curbside means. Material types included in this study were grouped into four Recoverability classes: curbside recyclable, compostable, other recoverable, non-recoverable. |
| <i>Curbside Recyclable</i> | Recoverability class that includes materials that are currently accepted (as of 2020) in residential curbside and multifamily recycling programs in the City of Seattle or are recycled through commercial sector collection programs. For example, corrugated cardboard and aluminum cans. |
| <i>Compostable</i> | Recoverability class that includes materials that are currently accepted (as of 2020) in residential curbside and multifamily compost programs in the City of Seattle or are composted through commercial sector collection programs. For example, food scraps, compostable food service items, and yard waste. |
| <i>Other Recoverable</i> | Recoverability class that includes materials that can be recovered through other, non-curbside means, programs, markets, or streams other than current standard curbside or commercial recycling programs, such as City-run drop-off and special item collections for scrap metal, appliances and electronics, CFL bulbs and batteries, EPS foam blocks, or used oil. |
| <i>Non-recoverable</i> | Recoverability class that includes materials that are not readily recyclable or face other market, technology, or programmatic related barriers (e.g., medical waste). |
| <i>Contaminant</i> | Item (including paper, plastic, glass, and metal items) that did not meet the requirements for Seattle's recycling program (as of 2014-15). Material types included in this study were grouped into seven Contaminant classes. Grouping the 2020 material types into these Contaminant classes enabled comparison between 2015 and 2020 lists of contaminants in the recycling stream. |
| <i>Capture Rate</i> | Measure of recycling program performance. Capture rate shows what portion of a given recyclable material was diverted for recycling rather than disposed. |

EXECUTIVE SUMMARY

Below is a summary of objectives, procedures, and key findings by subpopulation and comparisons across subpopulations for the 2020 Seattle Residential Garbage and Recycling Composition Study (“the Study”).

Objectives and Procedures



- The objectives of the Study were to:
 - provide statistically reliable data on the composition of garbage and recycling streams collected from single-family and multifamily residences in the City of Seattle; and
 - obtain information about the City’s residential garbage and recycling streams to estimate the recycling potential for each.



- COVID 19 pandemic presented a significant challenge to conduct fieldwork efficiently and effectively for this study.
- Cascadia adjusted the sampling calendar and protocols to follow health and safety regulations from public health officials.



- Cascadia characterized a total of 589 samples during the Study, including 289 garbage samples and 300 recycling samples.
- These samples were distributed across two residential types—single-family and multifamily residences—from the four collection zones within Seattle across four seasons. See [APPENDIX A: SAMPLING METHODOLOGY](#) for more details.



- Field crew hand-sorted samples into 110 distinct material types. See [APPENDIX D: MATERIAL CLASSIFICATION LIST](#) for more details.
- Cascadia used an industry-standard weighted average procedure to calculate composition estimates for overall Seattle and by residential types, zones, seasons. See [APPENDIX B: COMPOSITION CALCULATIONS](#) for more details.



- Current composition estimates were compared with the estimates from earlier Seattle residential garbage and recycling composition studies.
- Cascadia performed additional analyses, such as comparisons of study years ([APPENDIX I: COMPARISON TO PREVIOUS STUDIES](#)), contaminant estimation ([APPENDIX F: CONTAMINANT CLASSIFICATION](#)), demographic composition estimates ([APPENDIX C: DEMOGRAPHIC CALCULATIONS](#)).



- For the first time, the City of Seattle conducted capture rate analysis in this study, to assess the relative diversion of curbside recyclable material into the recycling bin.
- Cascadia classified material types into three classification schemes – “Recoverability” of material types ([APPENDIX E: RECOVERABILITY CLASSIFICATION](#)), “Contaminant” groups ([APPENDIX F: CONTAMINANT CLASSIFICATION](#)), and by material classes based on past studies ([APPENDIX G: UNIFORM CLASSIFICATION](#)). See [Section 3: COMPOSITION RESULTS](#) for more details. Cascadia conducted additional composition analyses based on these classification schemes.

- Organic material (e.g., food and yard material) collected from residents through residential curbside and multifamily compost programs were excluded from the Study. Cascadia is conducting residential organics study in 2022.

Results



- The data provided by the City of Seattle shows that 211,567 tons of garbage and recycling was collected from Seattle residents in 2020 (Figure 1).
- Garbage accounted for 56.7% (119,903 tons) and recycling 43.3% (91,664 tons) of the total tonnage (Figure 1).
- Single-family (SF) sector contributed 60.6% of the materials (128,223 tons). Of this, 52.2% (66,878 tons) was in garbage and 47.8% (61,345 tons) was in recycling (Figure 5).
- Multifamily (MF) sector contributed 39.4% (83,344 tons) of material. Of this, 63.6% (53,026 tons) was in garbage and 36.4% (30,318 tons) was in recycling (Figure 6).



- In Seattle's residential garbage, 63.1% of the material was classed as recoverable. 30.4% of material was in the compostable recoverability class, 21.3% in the curbside recyclable recoverability class, and 11.5% was other recoverable (recoverable through non-curbside means). 36.9% was non-recoverable material (Figure 4).
- The materials classes **Other Organics** (27,207 tons) and **Compostable Organics** (25,021 tons) accounted for 43.6% of Seattle's residential garbage.
- The most common, by weight, material type in Seattle's residential garbage was *Packaged edible food scraps* (9.9% or 11,181 tons).



- In Seattle's residential recycling, 94.5% of the material was classed as recoverable. 89.2% of the material was in the curbside recyclable recoverability class, 2.8% in the compostable recoverability class, and 2.4% other recoverable (Figure 4). 5.5% was non-recoverable.
- The top two material types – *plain OCC and kraft paper* (18,006 tons) and *paper products* (13,003 tons)— made up 33.8%, by weight, of the recycling stream.
- *Non-distinct fines* (1.6% of recycling tons) was the most prevalent non-recoverable material in recycling stream.



- The curbside recyclable material types with the highest capture rates (>87%) were *beverage glass bottles (green, brown, and clear); newspaper; and plain OCC or Kraft paper* (Figure 4).
- Capture rates for color-specific glass beverage bottle categories (clear, green, and brown) were consistently in the top five for curbside recyclable materials. This could be a consequence of having multiple glass bottle types (as opposed to one glass bottle type). In addition, much of the glass classified as *mixed cullet* likely began as color-specific glass beverage bottles and containers but, due to breakage during collection, could not be accurately classified, thereby potentially resulting in overestimation of the captures rates for these categories.
- The five curbside recyclable material types with the lowest capture rates were *non-compostable food service paper packaging; aluminum foil or containers; empty aerosol cans; small durable plastic products; and other poly-coated containers* (Figure 4).



- In single-family (SF) residential garbage, 57.6% was recoverable. 29.4% of material was in the compostable recoverability class, 17.2% of material was classed as curbside recyclable, and 11.0% was recoverable through non-curbside means (Figure 5).
- For residential recycling, Curbside recyclables made up 92.1% was classed in the curbside recyclable recoverability class, 1.6% was compostable material, and 1.2% was other recoverable. 5.1% was non-recoverable.
- *Paper products* (2.1%) was the top curbside recyclable material type in SF garbage.
- *Non-distinct fines* (1.7%) was the top non-recoverable material type in SF recycling.



- In multifamily (MF) residential garbage, 70.1% of material was coverable. 31.7% of material was classed as compostable, 26.3% as curbside recyclable, and 12.1% as recoverable through non-curbside means (Figure 6). 29.9% was non-recoverable.
- In MF residential recycling, 84% of material was classed as curbside recyclable, 6.4% as non-recoverable, 4.8% as other recoverable, and 5.3% as compostable material.
- *Paper products* (3.0%) was the top curbside recyclable material type in garbage.
- *Mixed or other paper* (1.3%) was the top non-recoverable material type in MF recycling.



- Cascadia classified samples into Spring (March – May), Summer (June – August), Fall (September – November), and Winter (December – February) seasons (Figure 7 through Figure 10).
- 27-34% of residential garbage was compostable in each season.
- 19-24% of residential garbage was curbside recyclable materials in each season.
- 87-91% of Seattle's residential recycling was curbside recyclable in each season.
- *Paper products* was the top curbside recyclable material type in residential garbage in each season.
- *Mixed or other paper* and *non-distinct fines* were the top non-recoverable material types in residential recycling in each season.



- Cascadia collected and characterized samples into four City zones (Figure 11 through Figure 14).
- Residential garbage and recycling collected ranged from 47,823 tons (Zone 1) to 56,606 tons (Zone 2).
- Total garbage ranged from 42% (Zone 3) to 74% (Zone 3) of the collected tonnage.
- Total recycling ranged from 26% (Zone 3) to 58% (Zone 4) of the collected tonnage.
- 28-32% of the residential garbage was compostable in all four zones. *Packaged edible food scraps or animal by-products or compostable or soiled paper products* were the most common (by tonnage) material types in garbage.
- 18-26% of the residential garbage was curbside recyclable in all four zones. *Paper products or mixed cullet* were the top curbside recyclables in garbage in all four zones.
- Curbside recyclables made up at least 86% of the residential recycling stream in all four zones. *Plain OCC or kraft paper* and *paper products* made up at least 31% of residential recycling in all four zones. *Non-distinct fines or mixed or other paper* were the top non-recoverable material types in residential recycling in all four zones.



- For the recycling stream, material types in the 2020 study were grouped into “Contaminant” classes and compared with the 2015 contaminant material types in recycling (Table 9).
- Across residential types, contaminant paper, glass, and metal decreased, whereas contaminant plastic increased.
- Within residential types, increases in contaminant material types were more common in multifamily (5/7 types) than single-family (1/7 types). Increases in the multifamily sector were evident in *non-conforming paper; non-conforming plastic; food, green waste, and wood; textiles; and other non-recyclables*.



- Between 1988/89 and 2020/21, residential garbage decreased by 33.4% (60,066 tons) (Figure 17).
- Compared to 2014, residential garbage increased 6.8%. All material classes showed an increase in tonnage compared to 2014, except for organics that continued to decline (Figure 178).
- Compared to 2000/01, residential recycling increased 20.0%, from 73,926 tons in 2000/01 to 91,664 tons in 2020 (19).
- Materials classed as Paper declined in 2020 recycling compared to their tonnages in 2000/01 (Figure 20). All other material classes increased relative to 2000/01.
- Materials classified as non-recyclables increased fivefold in residential recycling over the period of 2000/01 to 2020 (Figure 20).



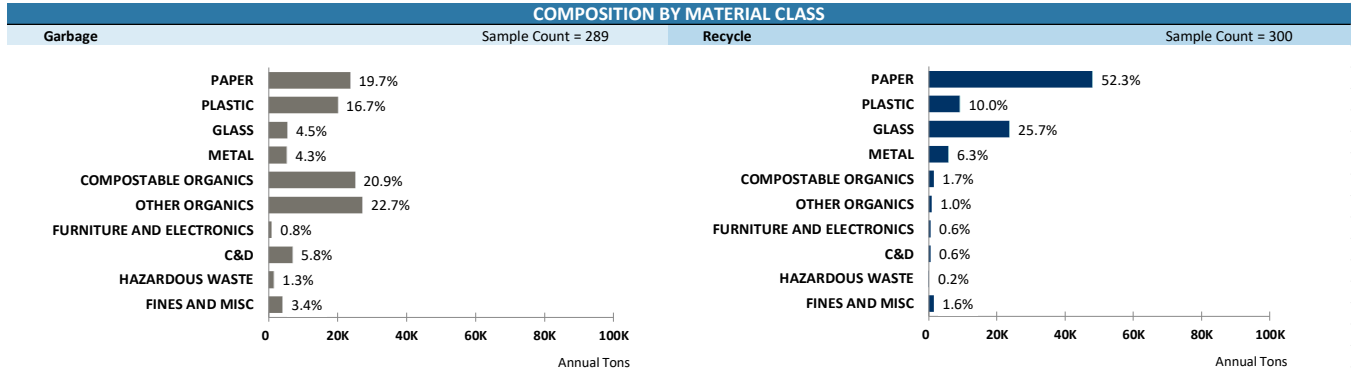
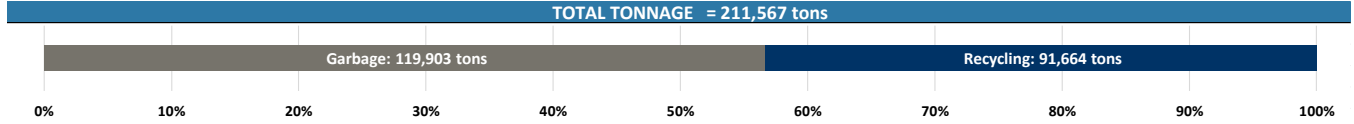
- The findings from 2020 study were compared with findings from earlier studies to identify changes in the composition of Seattle’s garbage and recycling over time.
- Trends differed between 1998 - 2020 and 2014 – 2000 garbage studies. Between 1998 and 2000, paper, metal, glass, and organics decreased whereas plastic, hazardous materials, and other materials increased (Table 17). Between 2014 and 2020, the share of **Plastic, Glass, Metal, and Hazardous materials** increased whereas **Organics** decreased (Table 18).
- Between the 2001 and 2020 and between 2015 and 2020 recycling studies, the share of **Paper** and **Metal** decreased, whereas **Plastic, Glass** and **Non-recyclables** increased (Tables 19 and 20).



- Cascadia characterized the composition of samples from Seattle’s recycling stream for two demographic sub-sectors– median household income and average household size.
- Four household size groups and four household income groups were identified.
- Recycling composition of samples from the smallest and largest average household size groups were nearly identical (90.5% and 90.8% of material collected for recycling was curbside recyclables) (Figure 15).
- Recycling composition of samples from the lowest and highest average household income group were similar (at least 89% of material collected for recycling was curbside recyclables) (Figure 16).

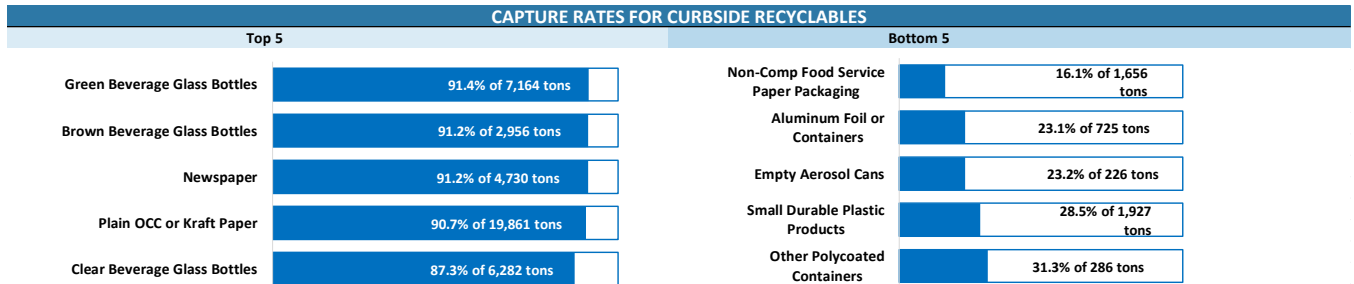
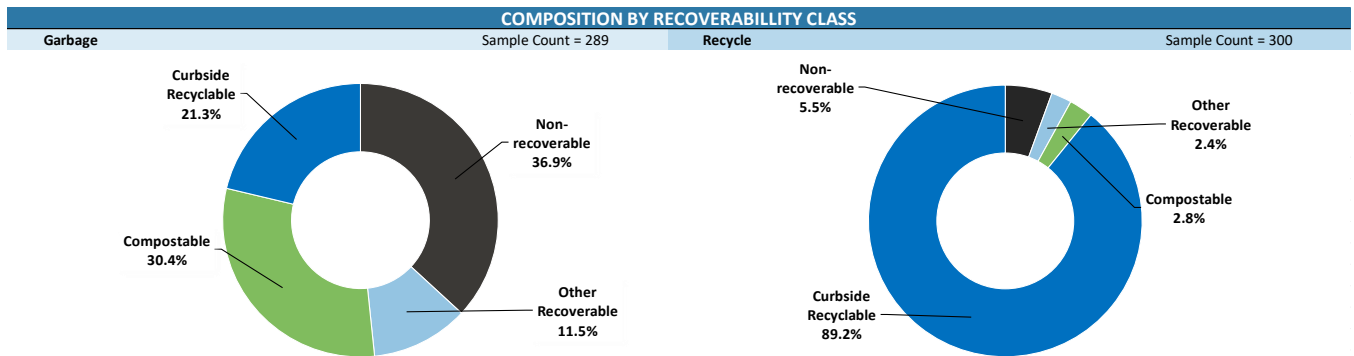
Figure 1 summarizes the findings of the composition study for the overall residential garbage and recycling streams, showing tonnages, composition by material class, top-ten material types, composition by recoverability class, and capture rates for curbside recyclables.

Figure 1: Summary of Composition – Overall Residential Garbage and Recycling Combined



TOP 10 MATERIALS

| Material | Est. | Cum. | Est. Tons | Material | Est. | Cum. | Est. Tons |
|--------------------------------------|--------------|-------|---------------|--------------------------------|--------------|-------|---------------|
| Edible Food Scraps - Packaged | 9.9% | 9.9% | 11,811 | Plain OCC or Kraft Paper | 19.6% | 19.6% | 18,006 |
| Animal By-products | 9.2% | 19.1% | 11,073 | Paper Products | 14.2% | 33.8% | 13,003 |
| Compostable or Soiled Paper Products | 8.3% | 27.4% | 9,995 | Mixed Cullet | 7.6% | 41.5% | 7,001 |
| Disposable Diapers | 7.3% | 34.7% | 8,734 | Green Beverage Glass Bottles | 7.1% | 48.6% | 6,545 |
| Non-Edible Food Scraps | 5.9% | 40.6% | 7,027 | Paper Packaging | 6.7% | 55.3% | 6,147 |
| Other Plastic Film | 5.3% | 45.9% | 6,391 | Clear Beverage Glass Bottles | 6.0% | 61.3% | 5,486 |
| Edible Food Scraps - Non-Packaged | 4.0% | 49.9% | 4,758 | Newspaper | 4.7% | 66.0% | 4,315 |
| Textiles | 3.7% | 53.6% | 4,434 | Grocery or Shopping Bags | 3.5% | 69.5% | 3,220 |
| Paper Products | 2.5% | 56.1% | 3,004 | Brown Beverage Glass Bottles | 2.9% | 72.5% | 2,697 |
| Mixed Cullet | 2.2% | 58.3% | 2,697 | PET Bottles | 2.6% | 75.0% | 2,363 |
| Total for Top Materials | 58.3% | | 69,924 | Total for Top Materials | 75.0% | | 68,784 |



OVERVIEW

1.1 Objectives

Seattle Public Utilities (SPU) contracts for the collection of three streams of municipal solid waste—garbage, recycling, and food and yard (compost)—from residential sectors within the City of Seattle (the “City”), in partnership with Waste Management and Recology (“contracted haulers”).⁵

The City has set a goal to recycle 70% of the municipal solid waste produced within the city by 2025.⁶ The City also envisions to “support and promote policies and practices that create a circular economy and reduce Seattle waste and carbon pollution as rapidly as possible” as part of SPU’s 2021-2026 Strategic Business Plan.⁷ To inform and aid in the evaluation of the city’s efforts to achieve these goals and better understand the types and quantities of municipal solid waste (MSW), SPU has conducted garbage and recycling composition studies since 1988.

The objective of the 2020 Seattle Residential Garbage and Recycling Composition Study (the “Study”) were to:

- (i) provide statistically reliable data on the composition of garbage and recycling streams collected from single-family and multifamily residences in the City of Seattle; and
- (ii) obtain information about the city’s residential garbage and recycling streams to estimate the recycling potential for each.

This report has the following sections:

- Section 0 provides an overview of the project goals and sampling plan.
- Section 0 summarizes the methodology.
- Section 0 characterizes composition results.
- Section 0 describes trends in residential garbage disposal and recycling.
- Appendices follow the main body of the report and provide material definitions, study methodology, comments on sampling events, material composition calculations, year-to-year comparison calculations, demographic analysis, and copies of field forms.

The Study **includes** residential garbage and recycling streams collected by haulers contracted by the City of Seattle. The Study **excludes** self-hauled residential garbage, self-hauled recycling, and yard loads. Food and yard material collected from residents is also excluded from the study. A separate composition study addressing the food and yard material stream is being conducted in 2022 and results will be published in a separate report. Also, the Study excluded multifamily garbage and recycling collected from multifamily buildings served by the Clear Alleys Program (CAP).

⁵ <https://www.seattle.gov/utilities/your-services/collection-and-disposal>

⁶ <https://www.seattle.gov/Documents/Departments/SPU/Documents/SolidWastePlanApdxBZWResolution30990.pdf>

⁷ <https://www.seattle.gov/Documents/Departments/SPU/AboutUs/SBP-ExecSummary.pdf>

1.2 Sampling Universe

Cascadia examined garbage and recycling set out for curbside collection by the two types of residential sectors—single-family and multifamily residences—from the four collection zones within the city. In the Study, single-family and multifamily sectors were defined as follows:



Single-family: Primarily detached dwellings including single, duplex, triplex, and four-plex homes. The contracted haulers collect garbage, recycling, and food and yard materials from carts set out on the curbside.



Multifamily: Primarily apartments and condominiums with five or more units. The contracted haulers collect garbage, recycling, and food and yard materials from dumpsters and carts.

Seattle's two contracted haulers collect all residential garbage, recycling, and food and yard material from single-family and multifamily sectors. Each contractor serves specific collection zones throughout Seattle, as shown in Figure 2.

Figure 2: Collection Zones

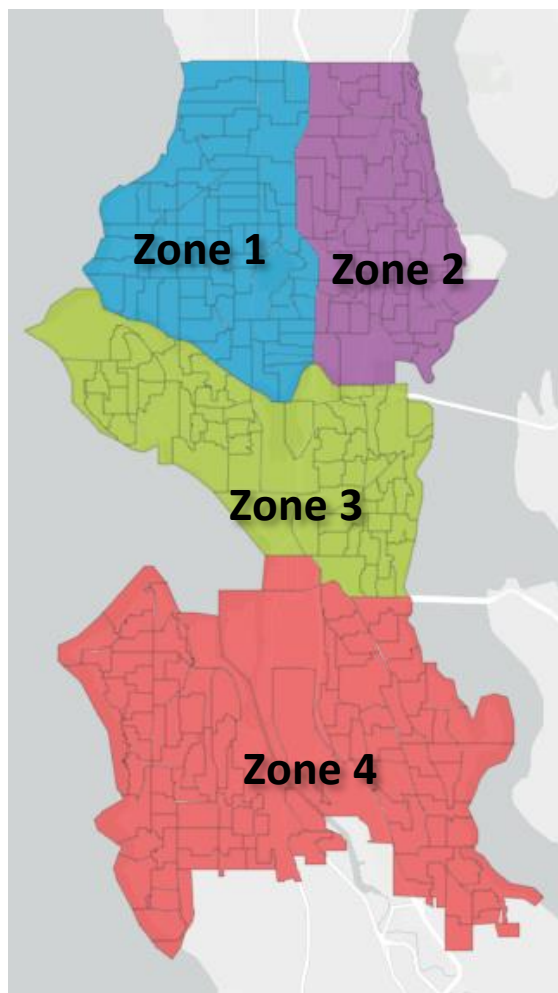


Table 1 below shows the residential garbage and recycling subsectors by residential sector type and collection zone included in these studies.

Table 1: Residential Garbage and Recycling Subsector by Residential Sector Type and Collection Zone

| Collection Zones | Single-family | | Multifamily |
|------------------|---------------|--------------------------|------------------------|
| | One | Single-family Zone One | Multifamily Zone One |
| | Two | Single-family Zone Two | Multifamily Zone Two |
| | Three | Single-family Zone Three | Multifamily Zone Three |
| | Four | Single-family Zone Four | Multifamily Zone Four |

1.3 Sample Allocation

Table 2 outlines the sample allocation (number of samples sorted for the Study), by residential sector type and zone.

Table 2: Sample Allocation

| | Garbage | | | Recycle | | | Grand Total |
|---------------|-------------|---------------|------------|-------------|---------------|------------|-------------|
| | Multifamily | Single-family | Total | Multifamily | Single-family | Total | |
| Zone 1 | 36 | 36 | 72 | 26 | 50 | 76 | 148 |
| Zone 2 | 36 | 37 | 73 | 22 | 50 | 72 | 145 |
| Zone 3 | 35 | 37 | 72 | 28 | 49 | 77 | 149 |
| Zone 4 | 37 | 35 | 72 | 24 | 51 | 75 | 147 |
| Total | 144 | 145 | 289 | 100 | 200 | 300 | 589 |

1.4 Sampling Calendar

Table 3 shows the sampling calendar for the Study. Cascadia scheduled the residential garbage study with the residential recycling study contiguously to optimize field coordination and data management. This also allowed for combined and comparative analyses of the residential garbage and recycling streams.

Initially, Cascadia planned to distribute the sampling events approximately every other month starting in January 2020 to reflect seasonal variation in the amounts and types of garbage disposed by Seattle residents. Due to the impacts of the COVID-19 pandemic, Cascadia adjusted the sampling calendar and protocols to reflect health and safety regulations from local and state public health officials.

For the 2020 study, sampling events for the residential garbage study typically occurred either the week before or the week after sampling events for the residential recycling study. Sampling events typically consisted of four consecutive days of sampling. Cascadia selected sampling dates for each sampling event using a random process and then adjusted in several instances to avoid sampling on or around holidays and to accommodate the sorting crew's availability.

Table 3: Sampling Calendar

| Weather Season | From | To | Stream | SF Samples | MF Samples | Sample Count |
|----------------|------------|------------|---------|------------|------------|--------------|
| Spring | 3/18/2020 | 3/19/2020 | Garbage | 11 | 11 | 22 |
| Summer | 8/3/2020 | 8/8/2020 | Garbage | 30 | 30 | 60 |
| Fall | 9/21/2020 | 9/24/2020 | Garbage | 25 | 25 | 50 |
| Fall | 11/10/2020 | 11/13/2020 | Garbage | 24 | 24 | 48 |
| Winter | 1/28/2020 | 2/1/2020 | Garbage | 24 | 24 | 48 |
| Winter | 1/18/2021 | 1/23/2021 | Garbage | 31 | 30 | 61 |
| Spring | 4/21/2021 | 4/22/2021 | Recycle | 20 | 10 | 30 |
| Summer | 7/27/2020 | 8/1/2020 | Recycle | 50 | 25 | 75 |
| Fall | 9/14/2020 | 9/18/2020 | Recycle | 50 | 25 | 75 |
| Fall | 11/16/2020 | 11/20/2020 | Recycle | 50 | 25 | 75 |
| Winter | 2/2/2021 | 2/4/2021 | Recycle | 30 | 15 | 45 |
| | | | | 345 | 244 | 589 |

METHODOLOGY

The methodology for the 2020 study is summarized below.

Step 1: Develop Sampling Plan

- Cascadia allocated samples among the eight residential sampling subsectors: single-family residential and multifamily residential sectors across four zones.
- Cascadia constructed a sampling schedule for the 2020-2021 calendar year, consisting of five consecutive sampling days (Monday-Friday) every other month.
- Due to the impacts of the COVID-19 pandemic, Cascadia adjusted the sampling calendar and protocols to reflect health and safety regulations from local and state public health officials.
- Sampling days were randomly selected and then adjusted to ensure a representative distribution across the days of the week and weeks of the month.
- Cascadia assembled a complete list of Seattle's residential routes in conjunction with the contracted haulers.

Step 2: Schedule and Collect Garbage and Recycling Samples

- Prior to each month's sampling, Cascadia randomly selected vehicle routes from each of the eight sampling subsectors.
- Cascadia sent a list of the routes chosen for each day of sampling to the contracted haulers.
- The contracted haulers collected the material from the pre-selected routes and delivered to the designated sorting location for sampling.

Step 3: Capture and Sort Samples

- Cascadia collected a total of 589 samples (289 garbage and 300 recycling) for the Study.
- As the pre-selected route vehicle entered the facility, the field supervisor verified information with the driver of the collection truck.
- For garbage sampling, the field supervisor directed the front loader operator to scoop a portion of the garbage being tipped out of the vehicle. About 250 pounds of this garbage was placed on a tarpaulin for sorting. Sorting occurred at the South Transfer Station (STS).
- For recycling sampling, the field supervisor directed the front loader operator to scoop a portion of the recycling load being tipped out of the vehicle. About 125 pounds of this material was placed in 64-gallon carts. The field supervisor then transported these carts to the North Transfer Station for sorting.
- The sorting crew sorted the garbage and recycling samples into 110 distinct material types, such as newspaper or PET plastic bottles. A detailed material classification list is in [APPENDIX D: MATERIAL](#).

Step 4: Analyze Data and Prepare Report

- Cascadia checked all sort data for data entry errors. At the conclusion of the study, Cascadia calculated the composition estimates by aggregating sampling data using a weighted average procedure. SPU provided annual collection tonnages for each stream to perform these calculations.
- Cascadia prepared this report based on this data analysis for the Study.

[APPENDIX A: SAMPLING METHODOLOGY](#) describes the methodology in detail.

2.1 Changes in Methodology from Past Garbage Study

The sampling methodology for the 2020 study differed from the methodology followed in the 2014 Residential Garbage Stream Composition Study in the following ways:

1. The number of samples allocated for the residential garbage study was impacted by logistical constraints such as changes in hauler and sorting facility operations. As a result, Cascadia reduced the total number of samples for the residential garbage study from the planned 360 samples to 289 samples.
2. The residential garbage study occurred at the same facility, South Transfer Station, for the duration of each season. This helped optimize the fieldwork because sorting crew was stationed at one transfer station the entire week of sampling. This also streamlined hauler communication as the route managers and drivers of selected routes knew they would dump their load at the same facility each day, rather than switching between South Transfer Station and North Transfer Station each day as in past studies.
3. The sorting crew recorded the material weights on Cascadia's cloud-based database management system customized for this study, instead of paper forms. The field crew carried paper field forms with them in case they faced technical challenges in the field.
4. Material list updates: The material types were updated to provide more detail about specific materials in the garbage stream. Some key updates include distinguishing between products and packaging for paper and plastics where applicable, including more detailed plastics categories, sorting *mixed cullet* (glass pieces smaller than one inch) separately from other fines⁸, and providing a greater level of detail for the food waste categories.
5. In the 2020 study, glass pieces larger than 1 inch were sorted into the more specific glass bottle and container categories; in the 2014 study, only glass pieces larger than 2 inches were sorted into the more specific glass categories. In addition, the 2020 study added a special process to sort glass materials not used in previous residential garbage stream composition studies but developed and used in previous residential recycling stream composition studies. This included completing a "polish" sort on the material that was 1" minus to remove all readily discernable pieces of glass to be counted as *mixed cullet*. Any 1" minus glass remaining after the "polish" sort was classified as *non-distinct fines*. The detail sorting procedure is described in [APPENDIX A: SAMPLING METHODOLOGY](#).

Please note that glass bottles and containers are commonly crushed by compaction in the collection trucks. These may be whole and intact at the time they are placed out for collection (either in garbage or recycling). Thus, part of the tons listed as *mixed cullet* and/or the *non-distinct fines* may be crushed glass bottles and containers. Because of this change in physical form, the composition data and the capture rates associated with glass bottles may be affected. Because relatively more *mixed cullet* was classified in the garbage stream than in the recycling stream, it is assumed that this resulted in an overestimation of the capture rates of the more specific glass bottle and container categories.

2.2 Changes in Methodology from Past Recycling Study

The sampling methodology for this study differed from the methodology followed in the 2015 Residential Recycling Stream Composition Study in the following ways:

⁸ This was a change from the 2014 garbage study

1. The number of samples allocated for the residential recycling study was impacted by logistical constraints and data quality issues. As a result, Cascadia conducted additional sampling for the recycling stream. The total number of samples for the residential recycling study increased from the planned 270 samples to 300 samples.
1. Sampling events for the residential recycling study were scheduled contiguously with the residential garbage study to maximize field coordination and data management efficiencies. Collecting the data for both studies in the same calendar year also allowed for comparisons and combined analyses of the residential garbage and recycling streams. The residential recycling study occurred either the week before or the week after the residential garbage study and was based on the week the garbage study was scheduled.
2. Due to construction at 3rd & Lander, there was no available space for the field crew to sort onsite. Recycling samples collected from incoming vehicles at 3rd & Lander were captured in 2-3 64-gallon carts and transported in a box truck to North Transfer Station, where the field crew sorted the material. A roll-off container was provided for the sorting crew to dispose of recyclable material after the material has been sorted and weighed.
3. Material list updates: The component categories were updated to align with the material list for the residential garbage study, allowing for comparisons, combined compositions, and calculations of capture rates between the two studies. The updated material list also provides more detail about specific materials in the recycling stream. Some key updates include distinguishing between products and packaging for paper and plastics where applicable, including more detailed plastics categories (particularly with plastic film and packaging), and providing more level of detail for the food waste material type.
4. The sorting crew recorded the material weights on Cascadia's cloud-based database management system customized for this study, instead of paper forms. The field crew carried paper field forms with them in case they faced technical challenges in the field.

2.3 COVID-19 Impacts

1. Cascadia assessed and reviewed pertinent regulations daily and adjusted the sampling calendar and protocol to reflect health and safety regulations from local and state public health officials. For example, Cascadia conducted two days of sampling in March 2020 at the onset of the pandemic. To protect the health and safety of our team, Cascadia and SPU agreed to postpone the remaining fieldwork scheduled for March 2020 and postponed fieldwork in May 2020.
2. The COVID-19 pandemic affected hauler operations, capacity, and times trucks arrived at receiving facilities. Most of the routes selected for this study arrived in the late afternoon and early evening, which impacted field crew's operations. The field crew adapted to these changes to meet sampling targets.

COMPOSITION RESULTS

3.1 Presenting and Interpreting the Results

This section includes a written description of composition results. In addition to the overall results, Cascadia calculated the composition estimates for the following sub-sectors:

- **Stream** (Garbage and Recycling)
- **Residence Sector** (Single-Family and Multifamily)
- **Season** (Spring, Summer, Fall, Winter)
- **Demographics** (Household Income, Household size)

In this report, composition results are presented in summary graphics (Figure 3) that have the following components:

- A bar chart showing the tons of disposed garbage and recycling for the given population.
- Two bar charts showing estimated tons and composition percentages for each material class in garbage and recycling streams.
- Two tables showing estimated tons and composition percentages for the top ten (by weight) material classes and types, along with cumulative percent in garbage and recycling streams.
- Two doughnut charts showing composition percentages by each recoverability class in garbage and recycling streams.
- Two bar charts showing the five highest and lowest capture rates for curbside recyclable material types.

In addition, [APPENDIX J: DETAIL COMPOSITION TABLES](#) provides detailed lists and quantities of the composition of recycling and garbage streams across all samples and each sub-sector (residential, season, zone, demography) (Table 4). Each composition table includes:

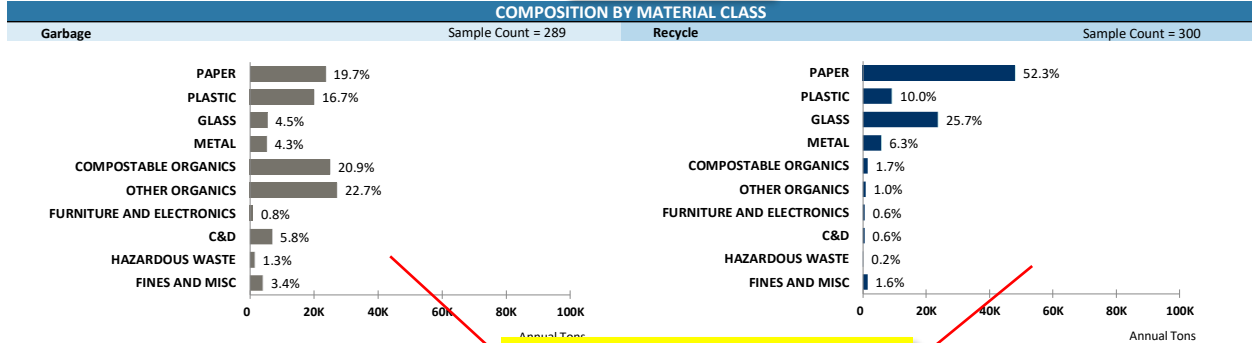
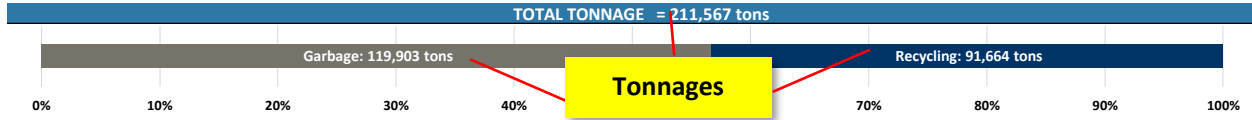
- Overall estimated percent composition of each material class and type by weight, including the 90 percent confidence interval for each material type. Cascadia calculated the composition and the confidence intervals according to the composition calculations and statistical procedures described in [APPENDIX B: COMPOSITION CALCULATIONS](#).
- Estimated tons of each material in the garbage and recycling stream, calculated by applying estimated composition percentages to the estimated total tons of materials disposed in garbage or recycling stream during the relevant study period, provided by SPU. Calculations are detailed in [APPENDIX B: COMPOSITION CALCULATIONS](#)

Material Designations

For clarity, material classes such as **Paper**, **Glass**, and **Metal**, and recoverability classes are bolded and capitalized whereas individual material types such as *mixed residue*, *plastic trash bags*, etc. are italicized. A detailed material list is in [APPENDIX D: MATERIAL CLASSIFICATION LIST](#).

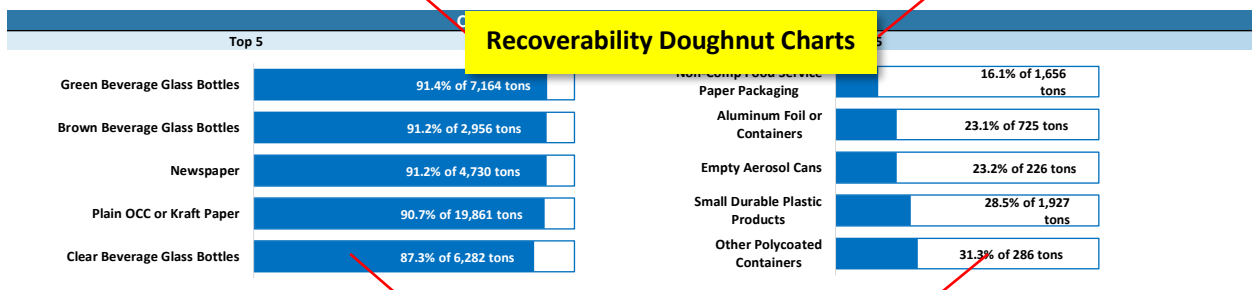
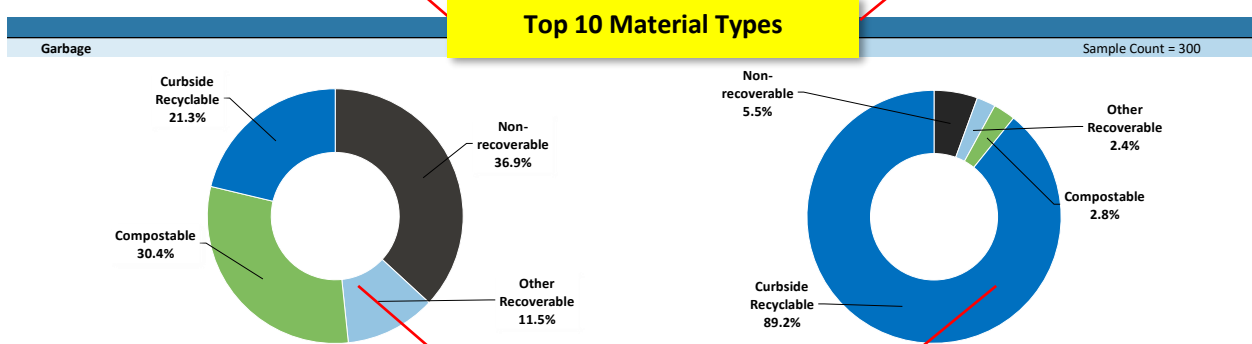
Figure 3 shows an example summary graphic. Table 4 shows an example composition table.

Figure 3: Example Composition Summary



Composition by Material Class

| Material | Est. | Cum. | Est. Tons | Material | Est. | Cum. | Est. Tons |
|--------------------------------------|--------------|-------|---------------|--------------------------------|--------------|-------|---------------|
| Edible Food Scraps - Packaged | 9.9% | 9.9% | 11,811 | Plain OCC or Kraft Paper | 19.6% | 19.6% | 18,006 |
| Animal By-products | 9.2% | 19.1% | 11,073 | Paper Products | 14.2% | 33.8% | 13,003 |
| Compostable or Soiled Paper Products | 8.3% | 27.4% | 9,995 | Green Beverage Glass Bottles | 7.1% | 41.0% | 6,545 |
| Disposable Diapers | 7.3% | 34.7% | 8,734 | Paper Packaging | 6.7% | 47.7% | 6,147 |
| Non-Edible Food Scraps | 5.9% | 40.6% | 7,027 | Clear Beverage Glass Bottles | 6.0% | 53.7% | 5,486 |
| Other Plastic Film | 5.3% | 45.9% | 6,391 | Newspaper | 4.7% | 58.4% | 4,315 |
| Edible Food Scraps - Non-Packaged | 4.0% | 49.9% | 4,758 | Grocery or Shopping Bags | 3.5% | 61.9% | 3,220 |
| Textiles | 3.7% | 53.6% | 4,434 | Brown Beverage Glass Bottles | 2.9% | 64.8% | 2,697 |
| Paper Products | 2.5% | 56.1% | 3,004 | PET Bottles | 2.6% | 67.4% | 2,363 |
| Plastic Garbage Bags | 1.9% | 58.0% | 2,337 | Aluminum Cans | 2.5% | 69.9% | 2,264 |
| Total for Top Materials | 98.0% | | 69,564 | Total for Top Materials | 69.9% | | 64,046 |



Top and Bottom Capture Rates for Curbside Recyclables

Table 4: Example Detail Composition Table

| Material | Est. Percent | + / - | Est. Tons | Tons + / - | Material | Est. Percent | + / - | Est. Tons | Tons + / - |
|--------------------------------------------|--------------|-------------|---------------|--------------|-----------------------------------|--------------|-------------|------------|------------|
| PAPER | 51.4% | 4.4% | 15,745 | 1,354 | COMPOSTABLE ORGANICS | 2.7% | 1.0% | 821 | 314 |
| Newspaper | 3.3% | 0.7% | 996 | 216 | Leaves and Grass | 0.0% | 0.0% | 4 | 5 |
| Plain OCC or Kraft Paper | 20.5% | 3.3% | 6,276 | 1,011 | Prunings | 0.0% | 0.0% | 7 | 6 |
| Grocery or Shopping Bags | 2.6% | 0.4% | 808 | 135 | Fats, Oils, and Grease | 0.0% | 0.0% | - | - |
| Paper Packaging | | | | 288 | Edible Food Scraps - Packaged | 1.8% | 0.8% | 559 | 258 |
| Paper Products | | | | 723 | Edible Food Scraps - Non-Packaged | 0.3% | 0.1% | 86 | 44 |
| Polycoated Paper Containers | | | | - | Non-Edible Food Scraps | 0.5% | 0.3% | 155 | 93 |
| Compostable or Soiled Paper Products | 0.6% | 0.1% | 190 | 42 | Other Compostable Organics | 0.0% | 0.0% | 10 | 9 |
| Compostable Food Service Paper Packaging | 0.2% | 0.1% | 76 | 27 | OTHER ORGANICS | 1.4% | 0.6% | 443 | 190 |
| Non-Comp Food Service Paper Packaging | 0.3% | 0.1% | 106 | 29 | Textiles | 0.5% | 0.2% | 163 | 149 |
| Waxed OCC or Kraft Paper | 0.6% | 0.4% | 178 | 137 | Mixed Textiles | 0.3% | 0.2% | 89 | 60 |
| Shredded Paper | 0.2% | 0.1% | 53 | 77 | Disposable Diapers | 0.2% | 0.1% | 50 | 22 |
| Septic Containers | 0.2% | 0.0% | 74 | 0 | Other Textiles | 0.3% | 0.2% | 55 | 59 |
| Stable Top Containers | 0.5% | 0.1% | 147 | 0 | Other Compostable Organics | 0.0% | 0.0% | 86 | 78 |
| Other Polycoated Containers | 0.1% | 0.0% | 25 | 0 | Other Compostable Organics | 0.0% | 0.0% | - | - |
| Mixed or Other Paper | 1.0% | 0.2% | 313 | 73 | FURNITURE AND ELECTRONICS | 1.7% | 1.7% | 513 | 519 |
| PLASTIC | 10.5% | 1.1% | 3,223 | 323 | Furniture | 0.0% | 0.0% | - | - |
| PET Bottles | 2.9% | 0.5% | 886 | 143 | Mattresses | 0.0% | 0.0% | - | - |
| HDPE Natural Bottles | 0.5% | 0.1% | 162 | 0 | Other Compostable Organics | 1.7% | 1.7% | 470 | 519 |
| HDPE Colored Bottles | 0.6% | 0.1% | 181 | 0 | Furniture | 0.0% | 0.0% | 1 | 1 |
| PP Bottles | 0.1% | 0.0% | 24 | 0 | Mattresses | 0.0% | 0.0% | - | - |
| Other Plastic Bottles | 0.0% | 0.0% | 10 | 5 | Rechargeable Batteries | 0.0% | 0.0% | 1 | 2 |
| PET Non-Bottle Packaging | 1.1% | 0.1% | 328 | 43 | Other Dry-cell Batteries | 0.0% | 0.0% | 6 | 4 |
| HDPE Non-Bottle Packaging | 0.6% | 0.8% | 195 | 242 | Wet-cell Batteries | 0.0% | 0.0% | - | - |
| PP Non-Bottle Packaging | 0.9% | 0.2% | 284 | 50 | Other Compostable Organics | 0.0% | 0.0% | 0 | 1 |
| Other Non-Bottle Plastic Packaging | 0.4% | 0.1% | 122 | 23 | Wet-cell Batteries | 0.0% | 0.0% | 34 | 25 |
| Compostable Food Service Plastic Utensils | 0.0% | 0.0% | 1 | 1 | C&C | 0.0% | 0.0% | 155 | 61 |
| Compostable Food Service Plastic Packaging | 0.0% | 0.0% | 9 | 4 | Clean Dimension Lumber | 0.1% | 0.1% | 24 | 18 |
| Non-Comp Food Service Plastic Utensils | 0.0% | 0.0% | 8 | 2 | Clean Engineered Wood | 0.1% | 0.1% | 32 | 27 |
| Non-Comp Food Service Plastic Packaging | 0.3% | 0.1% | 91 | 20 | Other Untreated Wood | 0.0% | 0.0% | 0 | 0 |
| Takeout and Retail Plastic Bags | 0.2% | 0.1% | 76 | 17 | Crates or Boxes | 0.0% | 0.0% | - | - |
| Other Clean PE Film | 0.3% | 0.1% | 104 | 17 | New Painted Wood | 0.0% | 0.0% | - | - |
| Stretch Wrap | 0.1% | 0.1% | 21 | 24 | Old Painted Wood | 0.0% | 0.0% | - | - |
| Other Plastic Film | 0.7% | 0.1% | 220 | 46 | Creosote-treated Wood | 0.0% | 0.0% | - | - |
| Mailers | 0.1% | 0.0% | 35 | 9 | Other Treated Wood | 0.0% | 0.0% | 1 | 1 |
| Pouches | 0.0% | 0.0% | 9 | 3 | Contaminated Wood | 0.0% | 0.0% | 7 | 6 |
| Compostable Plastic Bags | 0.0% | 0.0% | 1 | 0 | New Gypsum Scrap | 0.0% | 0.0% | - | - |
| Plastic Garbage Bags | 0.2% | 0.1% | 73 | 24 | Demo Gypsum Scrap | 0.0% | 0.0% | 1 | 2 |
| EPS Food-grade | 0.0% | 0.0% | 10 | 5 | Carpet | 0.0% | 0.0% | 0 | 0 |
| Rigid Polystyrene Foam Insulation | 0.0% | 0.0% | - | - | Felt Carpet Pad | 0.1% | 0.2% | 35 | 56 |
| EPS Non-food Grade | 0.1% | 0.0% | 36 | 12 | Fiberglass Insulation | 0.0% | 0.0% | 1 | 1 |
| Large Durable Plastic Products | 0.2% | 0.2% | 55 | 48 | Rock or Concrete or Brick | 0.0% | 0.0% | 2 | 4 |
| Small Durable Plastic Products | 0.6% | 0.1% | 189 | 42 | Ceramics | 0.1% | 0.1% | 39 | 21 |
| Plastic or Other Materials | 0.3% | 0.1% | 91 | 43 | Asphaltic Roofing | 0.0% | 0.0% | 0 | 0 |
| GLASS | 24.7% | 2.5% | 7,575 | 772 | Other Construction Debris | 0.0% | 0.0% | - | - |
| Clear Beverage Glass Bottles | 6.3% | 1.0% | 1,938 | 308 | Liquid Latex Paints | 0.0% | 0.0% | - | - |
| Green Beverage Glass Bottles | 6.6% | 1.0% | 2,024 | 319 | HAZARDOUS WASTE | 0.4% | 0.5% | 130 | 141 |
| Brown Beverage Glass Bottles | 2.8% | 0.8% | 854 | 250 | Oil-based Paints | 0.0% | 0.0% | - | - |
| Container Glass | 1.6% | 0.2% | 493 | 73 | Other Potentially Useful Wastes | 0.0% | 0.0% | 11 | 13 |
| Other Glass | 0.2% | 0.1% | 76 | 26 | Medical Waste | 0.3% | 0.5% | 99 | 138 |
| Mixed Cullet | 7.1% | 1.3% | 2,189 | 393 | Non-Caustic C | 0.0% | 0.0% | 2 | 3 |
| METAL | 5.4% | 0.6% | 1,669 | 180 | Pharmaceuticals and Medications | 0.0% | 0.0% | 4 | 4 |
| Aluminum Cans | 2.0% | 0.2% | 606 | 65 | Vitamins and Supplements | 0.0% | 0.0% | - | - |
| Aluminum Foil or Containers | 0.2% | 0.0% | 58 | 15 | Personal Care or Cosmetics | 0.0% | 0.1% | 15 | 16 |
| Other Nonferrous Metal | 0.1% | 0.0% | 18 | 7 | FINES AND MISC | 1.2% | 0.3% | 363 | 85 |
| Other Aluminum | 0.1% | 0.1% | 35 | 25 | Sand, Soil or Dirt | 0.0% | 0.0% | - | - |
| Empty Aerosol Cans | 0.1% | 0.0% | 20 | 11 | Non-distinct Fines | 1.0% | 0.3% | 318 | 85 |
| Steel Food Cans | 1.5% | 0.3% | 455 | 80 | Misc Organics | 0.1% | 0.1% | 26 | 19 |
| Other Ferrous Metal | 1.2% | 0.5% | 363 | 152 | Misc Inorganic | 0.0% | 0.0% | 9 | 5 |
| Mixed Metals or Materials | 0.4% | 0.1% | 114 | 38 | PPE | 0.0% | 0.0% | 10 | 4 |
| Metal Oil Filters | 0.0% | 0.0% | - | - | | | | | |
| Estimated Total | 100% | | 30,637 | | | | | | |
| Sample Count | | | | 75 | | | | | |

3.2 Capture Rate

Capture rate is a measure of recycling program performance. Capture rate shows what portion of a given recyclable material was diverted for recycling rather than disposed. Cascadia calculated the Capture Rate for each of the curbside recyclable material type as follows:

$$\text{Capture Rate} = \frac{\text{Weight of curbside recyclable material in recycling bin}}{\text{Weight of curb. recyc. material in recycling bin} + \text{Weight of curb. recyc. material in garbage bin}}$$

3.3 Material Classification Schemes

Cascadia classified material into broad material classes and more detailed material types. Materials were also characterized by three classification schemes – recoverability of material, contaminant groups, and uniformity across past garbage and recycling studies. These classifications allowed additional analyses of the composition data, beyond the analysis based on material type, as described below.

3.3.1 Recoverability Classification Scheme

Cascadia classified the material types into four recoverability categories, which Cascadia determined in collaboration with SPU (Table 5). Recoverability classification allowed analysis of material composition data by recoverability potential of the materials, either through City’s curbside programs or through non-curbside means.

Table 5: Recoverability Categories and Definitions

| | |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Curbside Recyclable | Materials that are currently accepted in residential curbside and multifamily recycling programs in the City of Seattle or are recycled through commercial sector collection programs. For example, corrugated cardboard and aluminum cans fall in this class. |
| Compostable | Materials that are currently accepted in residential curbside and multifamily compost programs in the City of Seattle or are composted through commercial sector collection programs. For example, food scraps, compostable food service items, and yard waste fall in this class. |
| Other Recoverable | Materials that can be recovered through programs, markets, or streams other than current standard curbside or commercial recycle programs, such as City-run drop-off and special item collections for scrap metal, appliances and electronics, CFL bulbs and batteries, EPS foam blocks, used oil, and other specialty items; City-run and private drop-off programs for drop-off collection through EPR programs such as for e-waste, paint, and pharmaceuticals; privately-run textile donation acceptance for reuse/recycling, store take-back of recyclable plastic film, and construction & demolition recycling at private facilities. |
| Non-recoverable | Materials that are not readily recyclable or face other market, technology, or programmatic related barriers (e.g., medical waste). |

[APPENDIX E: RECOVERABILITY CLASSIFICATION](#) shows the classification of the 110 material types into one of four recoverability classes.

3.3.2 Contaminant Classification Scheme

In the 2015 residential recycling stream composition study, the “Contaminants” referred to any item collected from the recycling bins (including paper, plastic, glass, and metal items) that did not meet the requirements for Seattle’s recycling program (as of 2014-15). The contaminants were grouped into seven contaminant classes. In this study, materials from the recycling stream were grouped into the same seven Contaminant classes used in 2015 to enable comparison between 2015 and 2020 lists of contaminants in the recycling stream (Table 6).

Table 6: Contaminant Classification Groups

| |
|-----------------------------|
| Non-conforming Paper |
| Non-conforming Metal |
| Non-Conforming Plastic |
| Non-conforming Glass |
| Food, Green Waste, and Wood |
| Textiles and Clothing |
| Other Non-Recyclables |

APPENDIX F: CONTAMINANT CLASSIFICATION shows grouping of 2020 study materials into Contaminant classes.

3.3.3 Uniform Classification Scheme

The material list used for Seattle garbage and recycling composition studies has changed from 52 material types in 1988/89 garbage study to 110 material types in 2020 garbage and recycling studies. Several material types moved to different broad material classes to better reflect new policies in recycling and composting. Cascadia adjusted the material list from the current study and from each of the past garbage and recycling studies to create a uniform material list that matches between studies. This uniform material list was used to analyze trends in garbage and recycling tonnages, as well as to compare the 2020 study compositions with those from past garbage and recycling studies. Cascadia grouped the 2020 materials into the following broad classes (Table 7):

Table 7: Uniform Material Classes

| Uniform Classes - Garbage | Uniform Classes - Recycling |
|---------------------------|-----------------------------|
| Paper | Paper |
| Plastic | Plastic |
| Glass | Glass |
| Metal | Metal |
| Organics | Non-Recyclables |
| Hazardous | |
| CDL Wastes | |
| Other Materials | |

APPENDIX G: UNIFORM CLASSIFICATION shows the adjustments and recategorization of the garbage and recycling material lists used in the 2020 study. It also shows the uniform classification scheme.

3.4 Overall Composition

Figure 4 summarize the composition findings and analysis of all 589 residential samples (289 garbage samples and 300 recycling samples) characterized for the Study.

Total Tonnage

The data provided by the City of Seattle shows a total of 211,567 tons of material was collected from Seattle residents in 2020. Of this, 56.7% (119,903 tons) was in garbage and 43.3% (91,664 tons) was in recycling.

Composition by Material Class

- Garbage: **Other Organics** (27,207 tons) and **Compostable Organics** (25,021 tons) accounted for 43.6% of Seattle's residential garbage. **Paper** (23,638 tons) accounted for 19.7% and **Plastic** (20,036 tons) accounted for 16.7%.
- Recycling: **Paper** (47,979 tons) and **Glass** (23,602 tons) made up respectively around 52.3% and 25.7% of residential recycling.

Top Ten Material Types

- Garbage: The top ten materials (by weight) accounted for 58% of the residential garbage stream. Making up 9.9%, *Packaged edible food scraps* was the largest percentage of material in residential garbage. Also, *animal by-products* and *compostable or soiled paper products* each accounted for at least 8% of garbage. Of the top ten materials, one material was curbside recyclable, four materials were compostable, and one material was recoverable through other programs or services.
- Recycling: In the residential recycling stream, the top ten materials (by weight) accounted for 75.0% of the overall stream. The top two materials—*plain OCC or kraft paper* (18,006 tons) and *paper products* (13,003 tons)—made up about 34% of the stream. In addition, *mixed cullet*; *green glass beverage bottles*; *clear glass beverage bottles*; and *paper packaging* each accounted for at least 6%. All materials on this list were curbside recyclable.

Composition by Recoverability

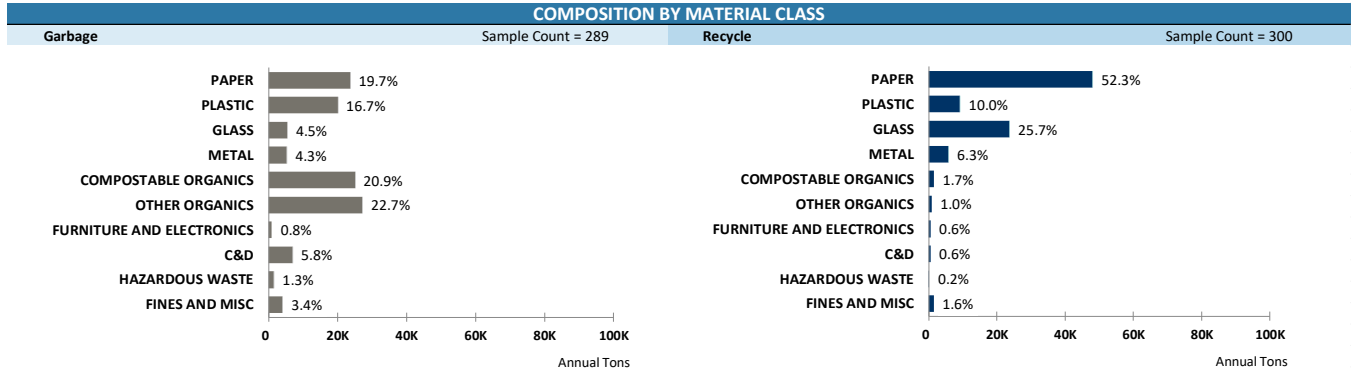
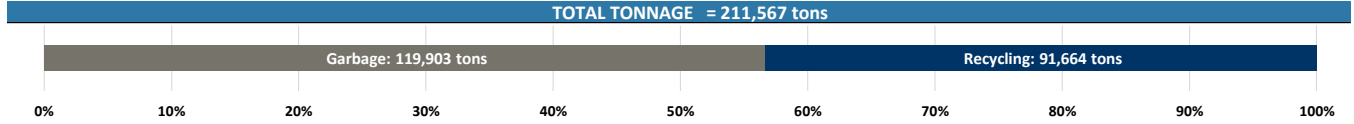
- Garbage: By weight, 63.1% of Seattle's residential garbage was recoverable - 21.3% was curbside recyclable, 30.4% was compostable, and 11.5% was recoverable through other programs or services.
- Recycling: Curbside recyclables made up 89.2% of Seattle's recycling. The recycling stream also contained mixed cullet (7.5%) non-recoverable (5.5%), other recoverable (2.4%), and compostable (2.8%) materials. *Non-distinct fines* (about 1.4% of recycling tons) was the most prevalent non-recoverable material type in the recycling stream.

Capture Rate

In order, the five curbside recyclable material types with the highest capture rates were *green beverage glass bottles* (91.4%); *brown beverage glass bottles* (91.2%); *newspaper* (91.2%); *plain OCC or Kraft paper* (90.7%); and *clear beverage glass bottles* (87.3%).

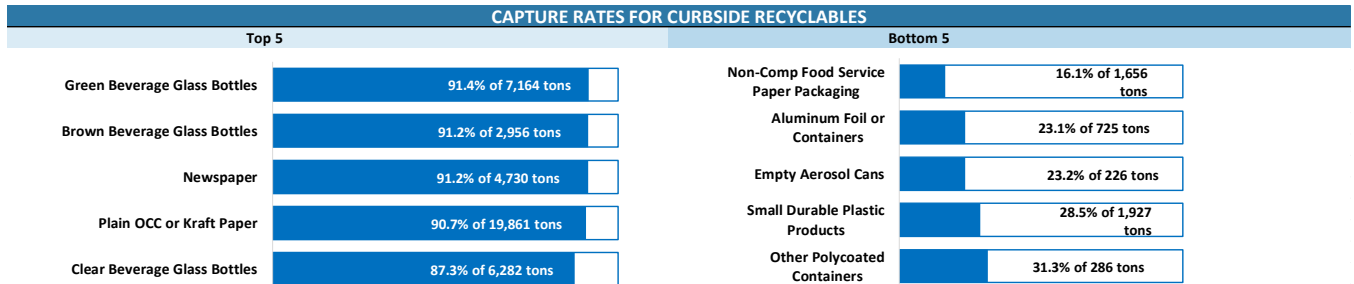
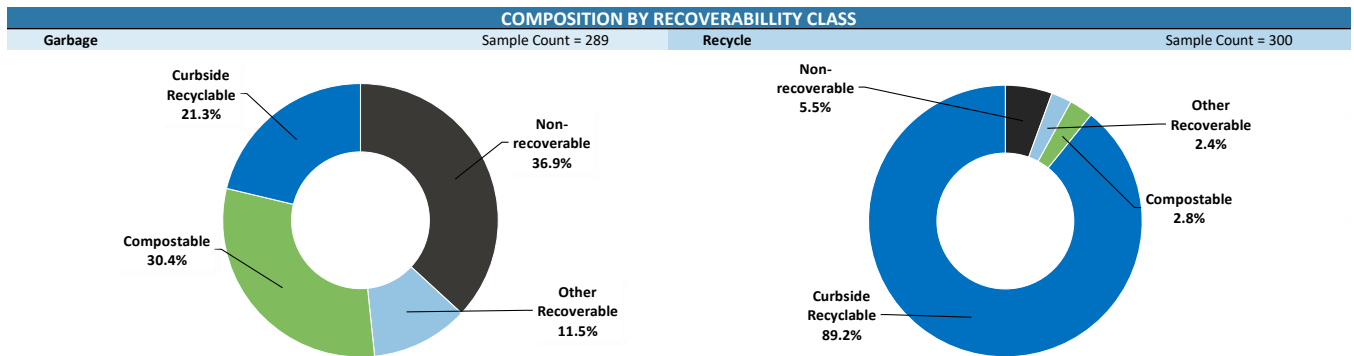
The five curbside recyclable materials with the lowest capture rates were, in order, *non-compostable food service paper packaging* (16.1%); *aluminum foil or containers* (23.1%); *empty aerosol cans* (23.2%); *small durable plastic products* (28.5%); and *other polycocated containers* (31.3%).

Figure 4: Composition – Garbage and Recycling Combined – Overall



TOP 10 MATERIALS

| Material | Est. | Cum. | Est. Tons | Material | Est. | Cum. | Est. Tons |
|--------------------------------------|--------------|-------|---------------|--------------------------------|--------------|-------|---------------|
| Edible Food Scraps - Packaged | 9.9% | 9.9% | 11,811 | Plain OCC or Kraft Paper | 19.6% | 19.6% | 18,006 |
| Animal By-products | 9.2% | 19.1% | 11,073 | Paper Products | 14.2% | 33.8% | 13,003 |
| Compostable or Soiled Paper Products | 8.3% | 27.4% | 9,995 | Mixed Cullet | 7.6% | 41.5% | 7,001 |
| Disposable Diapers | 7.3% | 34.7% | 8,734 | Green Beverage Glass Bottles | 7.1% | 48.6% | 6,545 |
| Non-Edible Food Scraps | 5.9% | 40.6% | 7,027 | Paper Packaging | 6.7% | 55.3% | 6,147 |
| Other Plastic Film | 5.3% | 45.9% | 6,391 | Clear Beverage Glass Bottles | 6.0% | 61.3% | 5,486 |
| Edible Food Scraps - Non-Packaged | 4.0% | 49.9% | 4,758 | Newspaper | 4.7% | 66.0% | 4,315 |
| Textiles | 3.7% | 53.6% | 4,434 | Grocery or Shopping Bags | 3.5% | 69.5% | 3,220 |
| Paper Products | 2.5% | 56.1% | 3,004 | Brown Beverage Glass Bottles | 2.9% | 72.5% | 2,697 |
| Mixed Cullet | 2.2% | 58.3% | 2,697 | PET Bottles | 2.6% | 75.0% | 2,363 |
| Total for Top Materials | 58.3% | | 69,924 | Total for Top Materials | 75.0% | | 68,784 |



3.5 Composition by Residence Sector

The following section describes composition results by two residence sectors: single-family and multifamily.

3.5.1 Single-family

Figure 5 summarizes the composition findings and analysis of 345 samples (145 garbage samples and 200 recycling samples) characterized from the single-family (SF) residential sector.

Total Tonnage

Seattle collected 128,223 tons of garbage and recycling material from SF residential sector. This account for 60.6% of the total garbage and recycling material collected. Of this, 52.2% (66,878 tons) was in the garbage stream and 47.8% (61,345 tons) was in the recycling stream.

Composition by Material Class

- Garbage: **Compostable Organics** (13,634 tons) and **Other Organics** (18,557 tons) accounted for nearly half of garbage tonnage (20.9% and 22.7%, respectively), and **Paper** (11,391 tons) and **Plastic** (10,768 tons) accounted for 17.0% and 16.1%, respectively.
- Recycling: **Paper** (31,832 tons) and **Glass** (17,048 tons) formed respectively 51.9% and 27.8% of SF recycling tonnage.

Top Ten Material Types

- Garbage: The top ten material types (by weight) accounted for over 60% of SF garbage. *Animal by-products* was the most prevalent material type (12.2%). Of the top ten material types, one was curbside recyclable, four were compostable, and two were recoverable through other programs or services.
- Recycling: The top ten material types (by weight) accounted for 76.9% of the SF recycling stream. All were curbside recyclable. The top two material types—*plain OCC or kraft paper* (11,500 tons) and *paper products* (8,620 tons)—made up nearly a third of the stream. In addition, *mixed cullet; green glass beverage bottles; paper packaging; clear glass beverage bottles; and newspaper* each accounted for at least 5%.

Composition by Recoverability

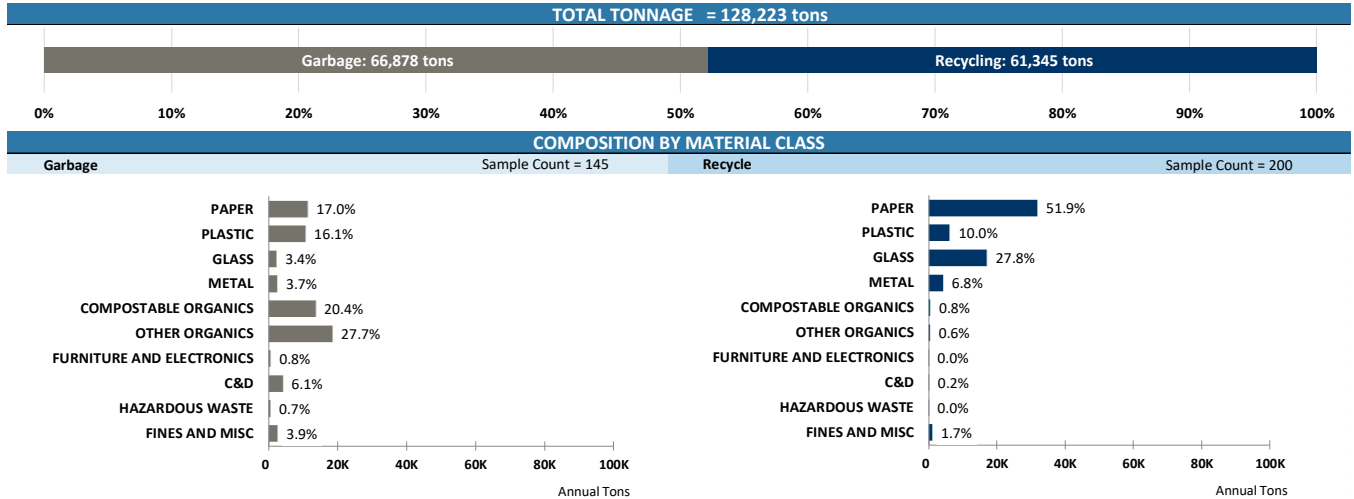
- Garbage: 57.6% of single-family garbage was recoverable - 17.2% was curbside recyclable, 29.4% was compostable, and 11.0% was recoverable through other programs and services. *Paper products* (2.1% of garbage) was the most prevalent of all curbside recyclable material types in SF garbage.
- Recycling: Curbside recyclables made up 92.1% of single-family recycling. The recycling stream also contained non-recoverable (5.1%), other recoverable (1.2%), and compostable (1.6%) materials. *Non-distinct fines* (1.5%) was the most prevalent non-recoverable material type in SF recycling stream.

Capture Rate

The five curbside recyclable materials with the highest capture rates were *brown beverage bottles* (97.1%); *green beverage bottles* (96.5%); *plain OCC or kraft paper* (95.4%); *newspaper* (94.5%); and *aluminum cans* (92.4%). The five curbside recycle materials with lowest capture rates were *non-compostable food service*

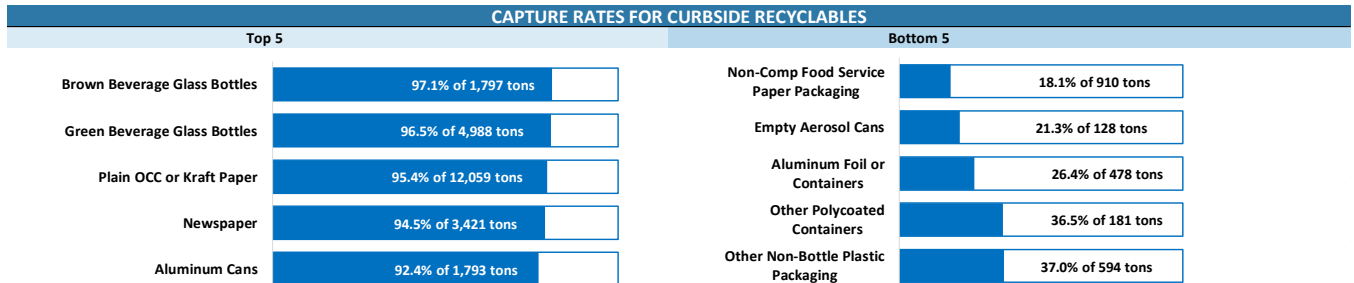
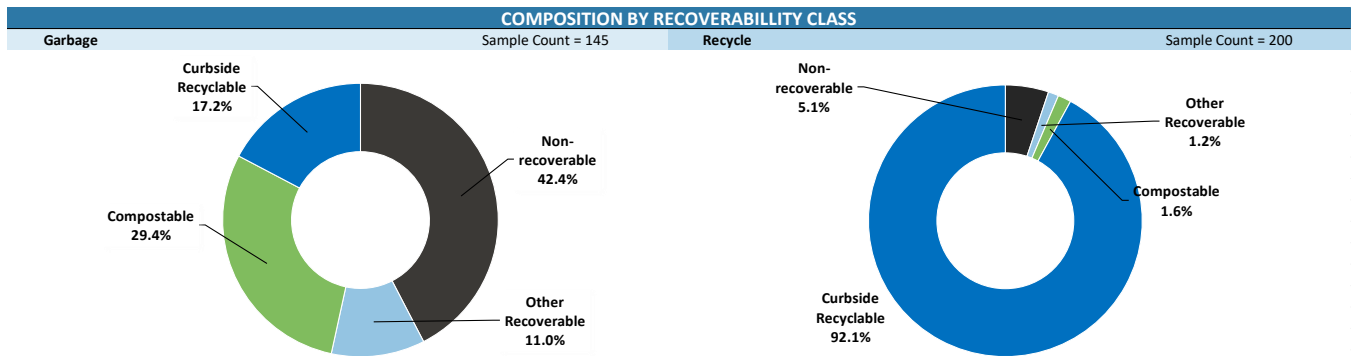
paper packaging (18.1%); empty aerosol cans (21.3%); aluminum foil or containers (26.4%); other polycoated containers (36.5%); and other non-bottle plastic packaging material (37.0%).

Figure 5: Composition – Garbage and Recycling – Single-family



TOP 10 MATERIALS

| Material | Est. (%) | Cum. (%) | Est. Tons | Material | Est. (%) | Cum. (%) | Est. Tons |
|--------------------------------------|--------------|----------|---------------|--------------------------------|--------------|----------|---------------|
| Animal By-products | 12.2% | 12.2% | 8,160 | Plain OCC or Kraft Paper | 18.7% | 18.7% | 11,500 |
| Edible Food Scraps - Packaged | 10.8% | 23.0% | 7,254 | Paper Products | 14.1% | 32.8% | 8,620 |
| Disposable Diapers | 9.6% | 32.6% | 6,413 | Mixed Cullet | 8.9% | 41.6% | 5,429 |
| Compostable or Soiled Paper Products | 7.9% | 40.5% | 5,291 | Green Beverage Glass Bottles | 7.9% | 49.5% | 4,816 |
| Other Plastic Film | 5.5% | 46.0% | 3,674 | Paper Packaging | 6.8% | 56.3% | 4,193 |
| Non-Edible Food Scraps | 5.3% | 51.4% | 3,564 | Clear Beverage Glass Bottles | 6.0% | 62.4% | 3,710 |
| Textiles | 3.5% | 54.9% | 2,337 | Newspaper | 5.3% | 67.7% | 3,232 |
| Edible Food Scraps - Non-Packaged | 3.3% | 58.2% | 2,224 | Grocery or Shopping Bags | 3.7% | 71.4% | 2,286 |
| Paper Products | 2.1% | 60.3% | 1,432 | Brown Beverage Glass Bottles | 2.8% | 74.2% | 1,744 |
| Mixed Textiles | 1.8% | 62.2% | 1,219 | Aluminum Cans | 2.7% | 76.9% | 1,657 |
| Total for Top Materials | 62.2% | | 41,568 | Total for Top Materials | 76.9% | | 47,187 |



3.5.2 Multifamily

Figure 6 summarizes the composition findings and analysis of 244 samples (144 garbage samples and 100 recycling samples) characterized from the multifamily (MF) residential sector.

Total Tonnage

Seattle collected 83,344 tons of garbage and recycling material from MF residential sector. This accounted for 39.4% of the total garbage and recycling collected). Of this, 63.6% (53,026 tons) was in garbage for disposal and 36.4% (30,318 tons) was in the recycling stream.

Composition by Material Class

- Garbage: **Paper** (12,247 tons) and **Compostable Organics** (11,387 tons) accounted for nearly 45% of garbage tonnage. **Plastic** (9,268 tons) made up more than 17% and **Other Organics** (8,650 tons) made up about 16% of MF garbage.
- Recycling: **Paper** (16,147 tons) accounted for 53.3% of MF recycling tonnage.

Top Ten Material Types

- Garbage: The top ten material types (by weight) accounted for over half of the residential MF garbage. Making up 8.9% and 8.6% respectively, *compostable or soiled paper products* and *packaged edible food scraps* were the most prevalent material types. Of the top ten materials, two materials were curbside recyclable, four were compostable, and one was recoverable through other programs or services.
- Recycling: The top ten material types (by weight) accounted for 71.6% of MF recycling stream. The top two materials – *plain OCC or kraft paper* (6,506 tons) and *paper products* (4,383 tons)— made up over 35% of the stream. All materials on this list were curbside recyclable.

Composition by Recoverability

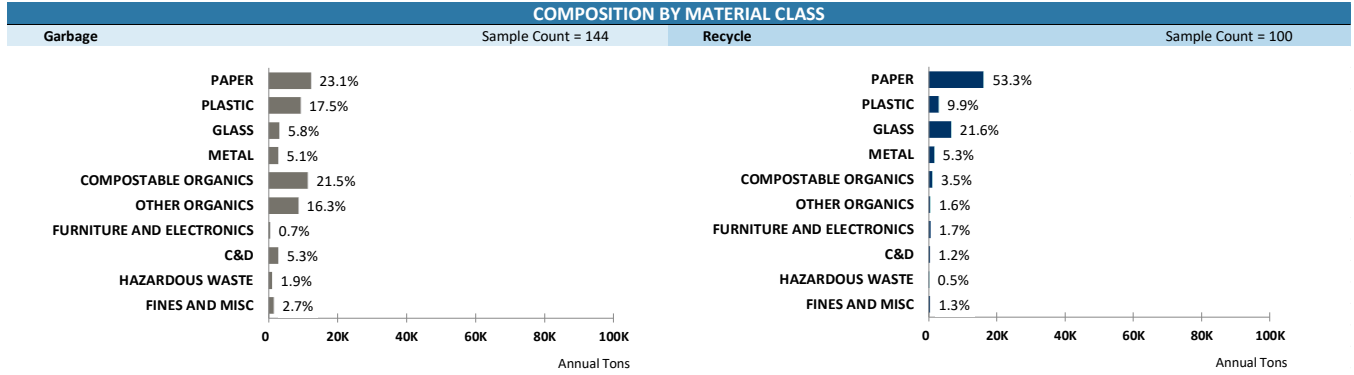
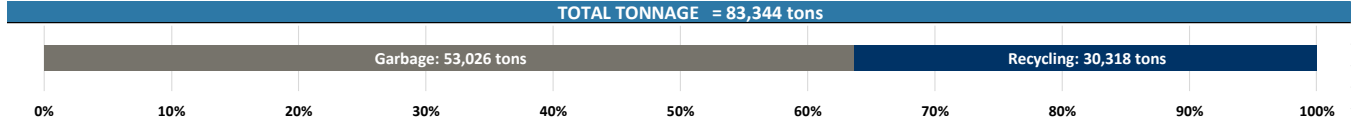
- Garbage: 70% of MF garbage (by weight) was recoverable – 26.3% was curbside recyclable, 31.7% was compostable, and 12.1% was recoverable through other programs or services. *Paper products* (3% or 1,573 tons) was the most prevalent curbside recyclable material type in MF garbage.
- Recycling: Curbside recyclables made up 83.5% of Seattle’s multifamily recycling. The recycling stream also contained non-recoverable (6.4%), other recoverable (4.8%), and compostable (5.3%) materials. *Mixed or other paper* (1.1% of recycling tons) was the most prevalent non-recoverable material type.

Capture Rate

In order, the five curbside recyclable materials with the highest capture rates were *plain OCC or kraft paper* (83.4%); *newspaper* (82.7%); and *brown* (82.2%), *green* (79.5%), and *clear* (78.7%) *beverage glass bottles*.

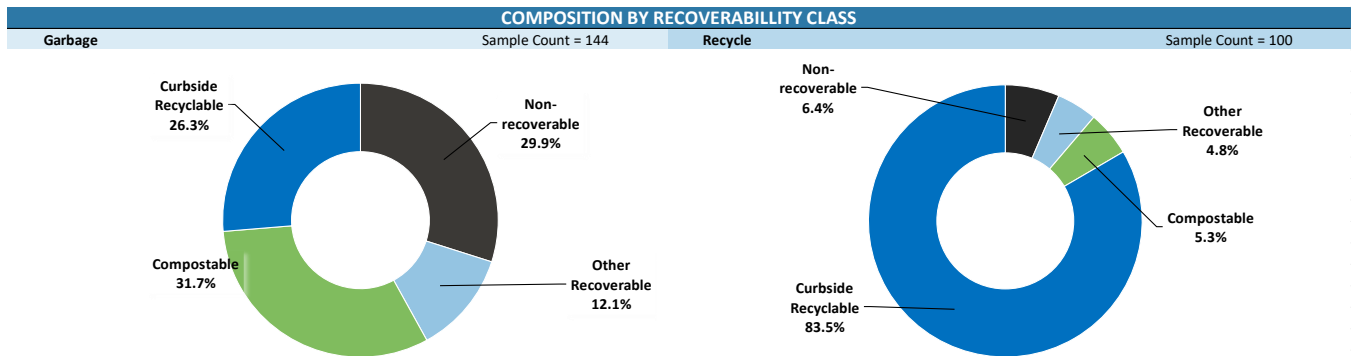
The five curbside recyclable materials with the lowest capture rates were, in order, *non-compostable food service paper packaging* (13.6%); *small durable plastic products* (15.1%); *aluminum foil or containers* (16.8%); *non-compostable food service paper packaging* (18.9%); and *other polycoated containers* (22.4%).

Figure 6: Composition – Garbage and Recycling – Multifamily



TOP 10 MATERIALS

| Garbage Sample Count = 144 | | | | Recycle Sample Count = 100 | | |
|--------------------------------------|--------------|-------|---------------|--------------------------------|--------------|---------------|
| Material | Est. | Cum. | Est. Tons | Material | Est. | Est. Tons |
| Compostable or Soiled Paper Products | 8.9% | 8.9% | 4,704 | Plain OCC or Kraft Paper | 21.5% | 6,506 |
| Edible Food Scraps - Packaged | 8.6% | 17.5% | 4,557 | Paper Products | 14.5% | 4,383 |
| Non-Edible Food Scraps | 6.5% | 24.0% | 3,462 | Paper Packaging | 6.4% | 1,954 |
| Animal By-products | 5.5% | 29.5% | 2,914 | Clear Beverage Glass Bottles | 5.9% | 1,776 |
| Other Plastic Film | 5.1% | 34.6% | 2,717 | Green Beverage Glass Bottles | 5.7% | 1,730 |
| Edible Food Scraps - Non-Packaged | 4.8% | 39.4% | 2,534 | Mixed Cullet | 5.2% | 1,572 |
| Disposable Diapers | 4.4% | 43.8% | 2,321 | Newspaper | 3.6% | 1,082 |
| Textiles | 4.0% | 47.7% | 2,097 | Brown Beverage Glass Bottles | 3.1% | 954 |
| Paper Products | 3.0% | 50.7% | 1,573 | Grocery or Shopping Bags | 3.1% | 934 |
| Mixed Cullet | 2.9% | 53.6% | 1,557 | PET Bottles | 2.7% | 825 |
| Total for Top Materials | 53.6% | | 28,434 | Total for Top Materials | 71.6% | 21,715 |



CAPTURE RATES FOR CURBSIDE RECYCLABLES

| Top 5 | Bottom 5 |
|---------------------------------------------------|------------------------------------------------------------|
| Plain OCC or Kraft Paper: 83.4% of 7,802 tons | Non-Comp Food Service Paper Packaging: 13.6% of 747 tons |
| Newspaper: 82.7% of 1,309 tons | Small Durable Plastic Products: 15.1% of 859 tons |
| Brown Beverage Glass Bottles: 82.2% of 1,160 tons | Aluminum Foil or Containers: 16.8% of 247 tons |
| Green Beverage Glass Bottles: 79.5% of 2,176 tons | Non-Comp Food Service Plastic Packaging: 18.9% of 436 tons |
| Clear Beverage Glass Bottles: 78.7% of 2,258 tons | Other Polycoated Containers: 22.4% of 106 tons |

3.6 Composition by Seasons

The following section describes composition results by four seasons: Spring (March, April, May), Summer (June, July, August), Fall (September, October, November), and Winter (December, January, February).

3.6.1 Spring

Figure 7 summarizes the composition findings and analysis of 52 spring residential samples (22 garbage samples and 30 recycling samples).

Total Tonnage

In spring, Seattle collected 51,923 tons of garbage and recycling from the residential sector (single-family and multi). Of this, 55.7% in garbage (28,934 tons) and 44.3% in recycling (22,989 tons).

Composition by Material Class

- Garbage: **Other Organics** (6,677 tons) and **Compostable Organics** (6,138 tons) accounted for 23.1% and 21.1% of spring garbage. **Paper** (5,631 tons) and **Plastic** (4,770 tons) accounted for 19.5% and 16.5%.
- Recycling: **Paper** (12,103 tons) accounted for 52.6% and **Glass** (5,303 tons) 23.1% of spring residential recycling.

Top Ten Material Types

- Garbage: The top ten material types (by weight) accounted for 60.1% of the spring residential garbage. The most common material types were *packaged edible food scraps* (9.5%), *animal by-products* (8.8%) and *compostable or soiled paper products* (8.4%). Of the top ten material types, one was curbside recyclable, four were compostable, and two were other recoverable.
- Recycling: The top ten material types accounted for 72.6% of the spring residential recycling. The top two material types—*plain OCC or kraft paper* (4,454 tons) and *paper packaging* (3,186 tons)—made up a third of the stream. All materials on this list were curbside recyclable.

Composition by Recoverability

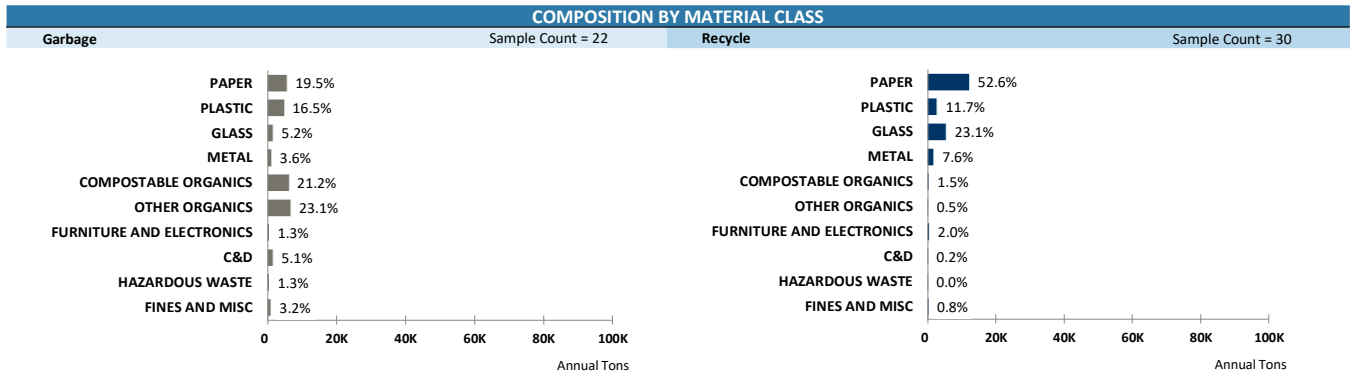
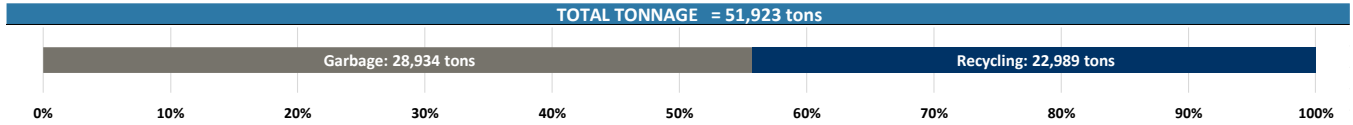
- Garbage: 62.1% of Seattle's spring residential garbage was recoverable - 20.8% was curbside recyclable, 31.1% was compostable, and 10.2% was other recoverable. Three curbside recyclable material types—*paper products, paper packaging, and plain OCC or kraft paper*—together formed 6.0% of the spring residential garbage.
- Recycling: Curbside recyclables made up 89.4% of Seattle's spring residential recycling, 4.7% were non-recoverable, 3.5% other recoverable, and 2.5% compostable material. *Mixed or other paper* (1.2%) was the most prevalent non-recoverable material type in the spring residential recycling.

Capture Rate

The five curbside recyclable materials with the highest capture rates were *newspaper* (94.1%); *green beverage glass bottles* (92.4%); *aluminum cans* (91.1%); *plain OCC or kraft paper* (90.9%); and *HDPE non-bottle packaging* (90.8%). The five curbside recyclable materials with the lowest capture rates were *other*

polycoated containers (20.6%); non-compostable food service paper packaging (20.8%); other non-bottle plastic packaging (34.4%); empty aerosol cans (34.7%); and aluminum foil or containers (35.7%).

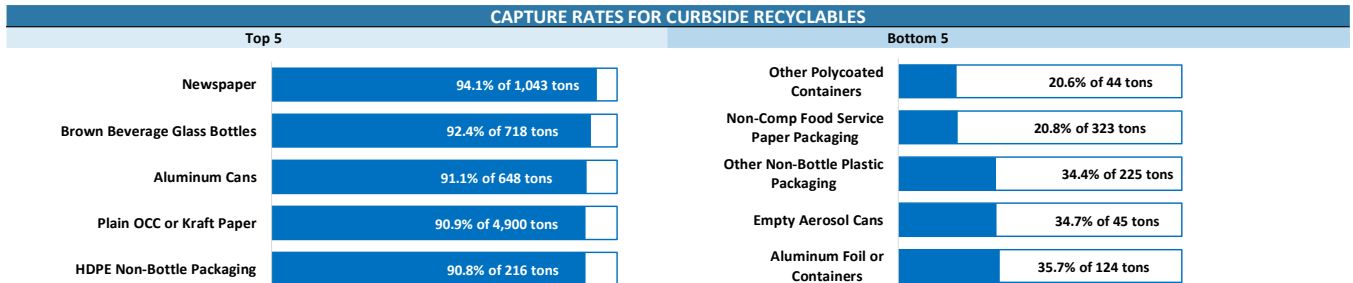
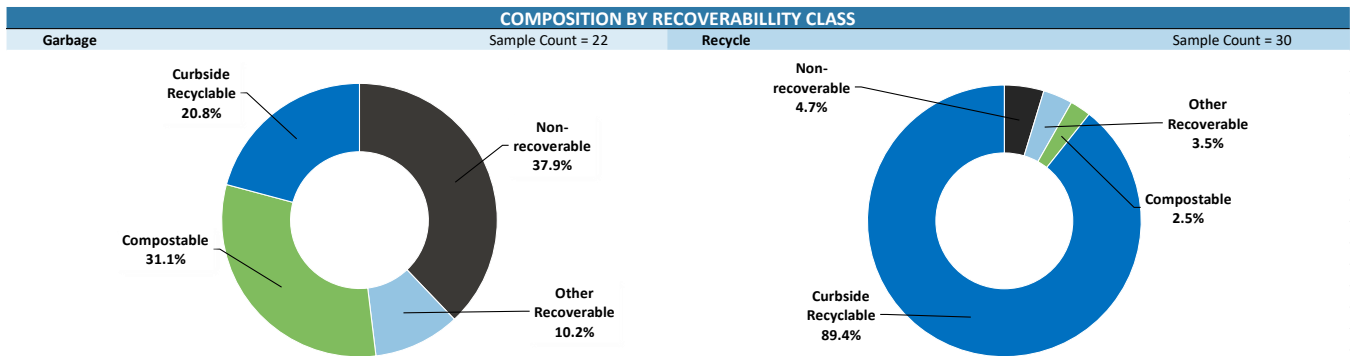
Figure 7: Composition – Garbage and Recycling – Spring



TOP 10 MATERIALS

| Material | Est. (%) | Cum. (%) | Est. Tons |
|--------------------------------------|--------------|----------|---------------|
| Edible Food Scraps - Packaged | 9.5% | 9.5% | 2,747 |
| Animal By-products | 8.8% | 18.3% | 2,539 |
| Compostable or Soiled Paper Products | 8.4% | 26.6% | 2,421 |
| Non-Edible Food Scraps | 7.6% | 34.2% | 2,200 |
| Disposable Diapers | 7.5% | 41.8% | 2,183 |
| Other Plastic Film | 5.7% | 47.5% | 1,649 |
| Edible Food Scraps - Non-Packaged | 3.4% | 50.9% | 978 |
| Textiles | 3.4% | 54.2% | 970 |
| Mixed Textiles | 3.1% | 57.3% | 897 |
| Paper Products | 2.8% | 60.1% | 809 |
| Total for Top Materials | 60.1% | | 17,393 |

| Material | Est. (%) | Cum. (%) | Est. Tons |
|--------------------------------|--------------|----------|---------------|
| Plain OCC or Kraft Paper | 19.4% | 19.4% | 4,454 |
| Paper Products | 13.9% | 33.2% | 3,186 |
| Paper Packaging | 7.5% | 40.7% | 1,721 |
| Green Beverage Glass Bottles | 6.8% | 47.5% | 1,557 |
| Clear Beverage Glass Bottles | 5.9% | 53.4% | 1,357 |
| Mixed Cullet | 5.3% | 58.7% | 1,225 |
| Newspaper | 4.3% | 63.0% | 981 |
| Grocery or Shopping Bags | 3.7% | 66.6% | 842 |
| PET Bottles | 3.0% | 69.7% | 697 |
| Brown Beverage Glass Bottles | 2.9% | 72.6% | 663 |
| Total for Top Materials | 72.6% | | 16,682 |



3.6.2 Summer

Figure 8 summarizes the composition findings and analysis of 135 summer residential samples (60 garbage samples and 75 recycling samples).

Total Tonnage

In the summer months, Seattle collected a total of 51,050 tons of garbage and recycling material from SF and MF residents combined, consisting of 56.1% in garbage (28,631 tons) and 43.9% in recycling (22,418 tons).

Composition by Material Class

- Garbage: **Compostable Organics** (6,517 tons), **Paper** (5,763 tons), and **Other Organics** (5,726 tons) each accounted for over 20% (by weight) of summer residential garbage.
- Recycling: **Paper** (10,780 tons) accounted for 48.1% (by weight) of summer residential recycling, and **Glass** (6,558 tons) accounted for 29.3%.

Top Ten Material Types

- Garbage: The top ten material types accounted for 57.6% of Seattle's summer residential garbage. *Packaged edible food scraps* made up 11.7%, *compostable or soiled paper products* 9.6% and *animal by-products* 7.4% of garbage. Of the top ten material types, one was curbside recyclable, four were compostable, and two were recoverable through other programs or services.
- Recycling: In the residential recycling stream, the top ten material types accounted for 75.2% of material. The top two material types—*plain OCC or kraft paper* (4,054 tons) and *paper products* (3,243 tons)—made up nearly a third of the stream. In addition, *mixed cullet*; *clear and green beverage glass bottles*; and *paper packaging* each accounted for at least 5% of recycling. All materials on this list were curbside recyclable.

Composition by Recoverability

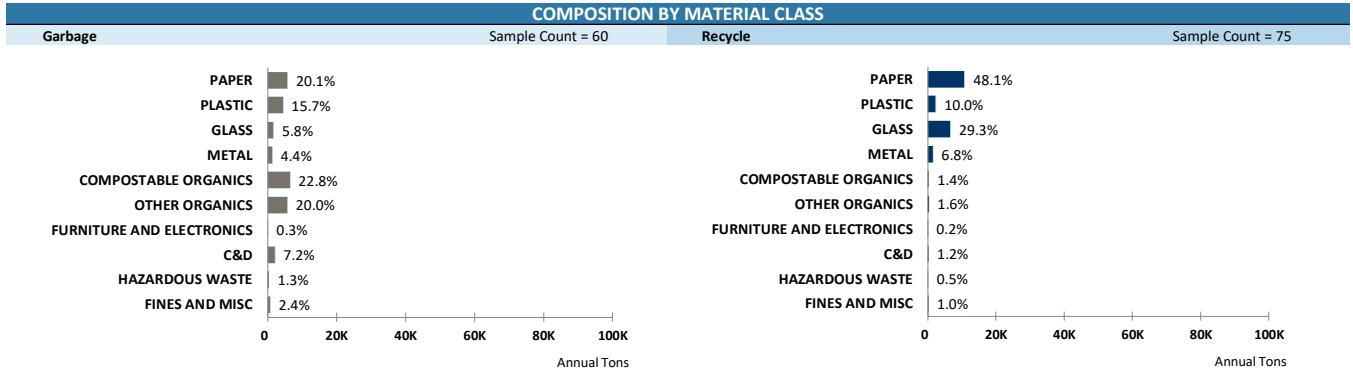
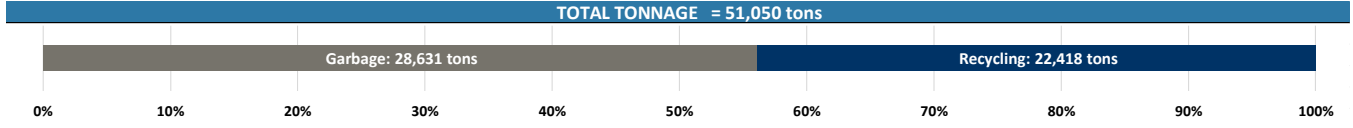
- Garbage: 66.9% of Seattle's summer residential garbage was recoverable - 21.6% was curbside recyclable, 33.5% was compostable, and 11.8% was recoverable through other programs or services. Two curbside recyclables—*Mixed cullet* and *paper products*—together consisted of over 5% of the summer residential garbage stream.
- Recycling: Curbside recyclables made up 89.9% of Seattle's summer residential recycling, along with 2.3% compostable, 2.4% other recoverable, and 5.4% was non-recoverable materials. *Mixed or other paper* (nearly 1%) was the most prevalent non-recoverable material in the summer residential recycling stream.

Capture Rate

The five materials with the highest capture rates were *green beverage glass bottles* (94%); *newspaper* (90.6%); *plain OCC or kraft paper* (90.5%); and *brown* (90.2%) and *clear* (89.5%) *beverage glass bottles*.

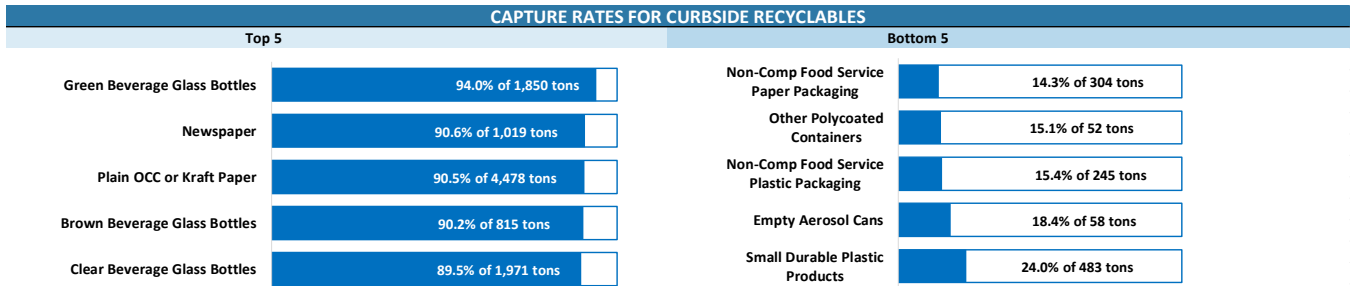
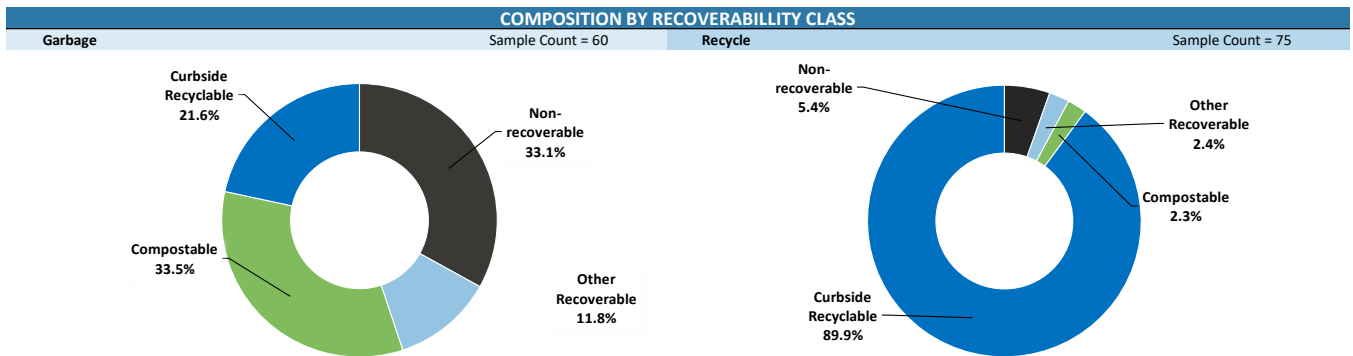
The five curbside recyclable materials with the lowest capture rates were *non-compostable food service paper packaging* (14.3%); *other polycoated containers* (15.1%); *non-compostable food service plastic packaging* (15.4%); *empty aerosol cans* (18.4%); and *small durable plastic products* (24%).

Figure 8: Composition – Garbage and Recycling Combined – Summer



TOP 10 MATERIALS

| Material | Est. (%) | Cum. (%) | Est. Tons | Material | Est. (%) | Cum. (%) | Est. Tons |
|--------------------------------------|--------------|----------|---------------|--------------------------------|--------------|----------|---------------|
| Edible Food Scraps - Packaged | 11.7% | 11.7% | 3,342 | Plain OCC or Kraft Paper | 18.1% | 18.1% | 4,054 |
| Compostable or Soiled Paper Products | 9.6% | 21.2% | 2,735 | Paper Products | 14.5% | 32.5% | 3,243 |
| Animal By-products | 7.4% | 28.6% | 2,114 | Mixed Cullet | 7.9% | 40.5% | 1,777 |
| Disposable Diapers | 6.4% | 35.0% | 1,825 | Clear Beverage Glass Bottles | 7.9% | 48.3% | 1,765 |
| Other Plastic Film | 5.5% | 40.5% | 1,568 | Green Beverage Glass Bottles | 7.8% | 56.1% | 1,739 |
| Non-Edible Food Scraps | 4.9% | 45.4% | 1,402 | Paper Packaging | 5.8% | 61.9% | 1,290 |
| Edible Food Scraps - Non-Packaged | 4.8% | 50.1% | 1,371 | Newspaper | 4.1% | 66.0% | 923 |
| Mixed Cullet | 3.7% | 53.9% | 1,062 | Brown Beverage Glass Bottles | 3.3% | 69.3% | 735 |
| Textiles | 3.0% | 56.9% | 866 | Grocery or Shopping Bags | 3.1% | 72.3% | 686 |
| Mixed Textiles | 2.3% | 59.2% | 660 | PET Bottles | 2.8% | 75.2% | 637 |
| Total for Top Materials | 59.2% | | 16,946 | Total for Top Materials | 75.2% | | 16,849 |



3.6.3 Fall

Figure 9 summarizes the composition findings and analysis of 248 summer residential samples (98 garbage samples and 150 recycling samples).

Total Tonnage

In the fall months, Seattle collected a total of 54,124 tons of garbage and recycling material from residents (SF and MF combined), consisting of 57.5% in garbage (31,122 tons) and 42.5% in recycling (23,002 tons).

Composition by Material Class

- Garbage: **Other Organics** (6,865 tons), **Paper** (6,271 tons), **Plastic** (5,989 tons), and **Compostable Organics** (5,923 tons) each accounted for at least 19% of fall residential garbage.
- Recycling: **Paper** (12,032 tons) accounted for 52.3% of fall residential recycling, and **Glass** (5,625 tons) accounted for 24.5% of fall residential recycling.

Top Ten Material Types

- Garbage: The top ten material types accounted for 55% of Seattle's fall residential garbage. Making up 10%, *animal by-products* was the most prevalent material of this stream. In addition, *packaged edible food scraps* and *compostable or soiled paper products* each accounted for at least 6% of garbage. Of the top ten material types, one material was curbside recyclable, four were compostable, and one was recoverable through other programs or services.
- Recycling: In the residential recycling stream, the top ten material types accounted for 74.9% of the overall fall recycling. The top two materials—*plain OCC or kraft paper* (4,494 tons) and *paper products* (3,179 tons)—made up over a third of the stream. In addition, *mixed cullet; newspaper; green beverage glass bottles* each accounted for at least 6% of recycling. All materials on this list were curbside recyclable.

Composition by Recoverability

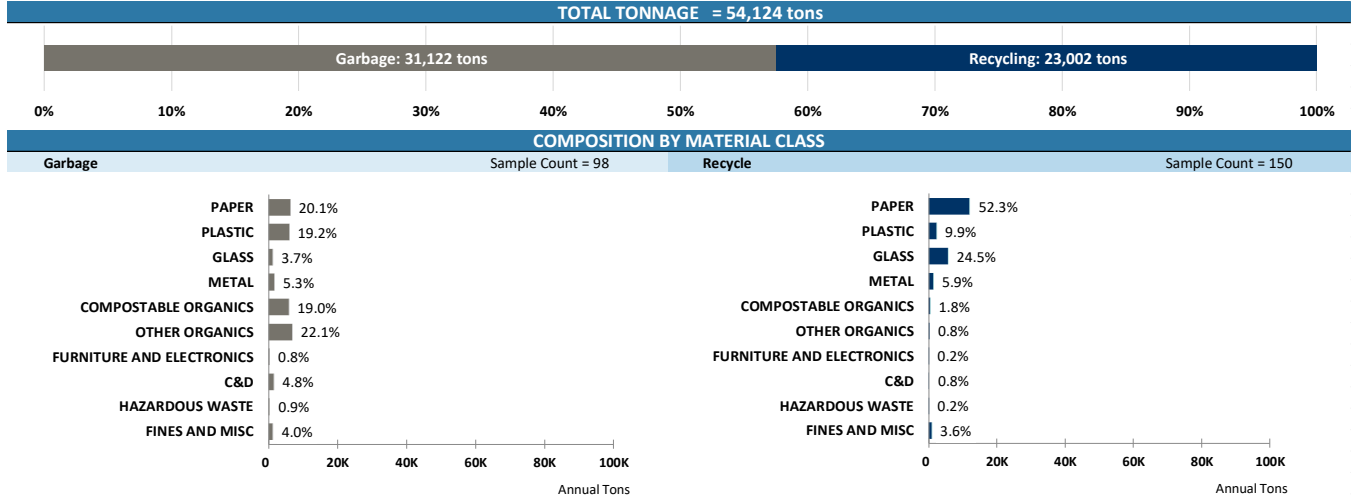
- Garbage: 63% of Seattle's fall residential garbage was recoverable - 23.8% was curbside recyclable, 27.0% was compostable, and 12.2% was recoverable through other programs or services. *Paper products* (3% or 933 tons) was the most prevalent of curbside recyclable material type in residential fall garbage.
- Recycling: Curbside recyclables made up 86.8% of Seattle's summer residential recycling, along with 3.1% compostable, 2.4% other recoverable, and 7.7% non-recoverable materials. *Non-distinct fines* (nearly 3% or 743 tons) was the most prevalent non-recoverable material type in the recycling stream.

Capture Rate

The five materials with the highest capture rates were *green beverage glass bottles* (94.1%); *plain OCC or kraft paper* (90.8%); *brown beverage glass bottles* (89.7%); *newspaper* (88.2%); and *clear beverage glass bottles* (87.4%).

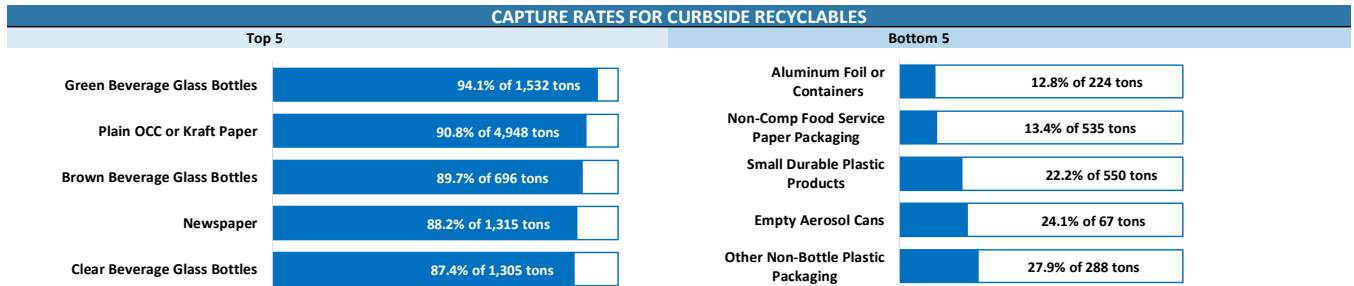
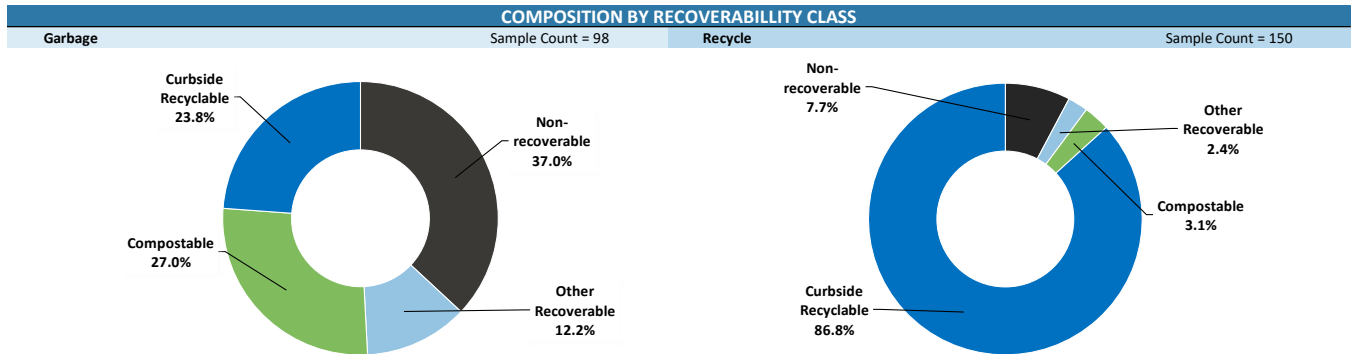
The five curbside recyclable materials with the lowest capture rates were *aluminum foil or containers* (12.8%); *non-compostable food service paper packaging* (13.4%); *small durable plastic products* (22.2%); *empty aerosol cans* (24.1%); and *other non-bottle plastic packaging* (27.9%).

Figure 9: Composition – Garbage and Recycling Combined – Fall



TOP 10 MATERIALS

| Material | Est. | Cum. | Est. Tons | Material | Est. | Cum. | Est. Tons |
|--------------------------------------|--------------|-------|---------------|--------------------------------|--------------|-------|---------------|
| Animal By-products | 10.0% | 10.0% | 3,099 | Plain OCC or Kraft Paper | 19.5% | 19.5% | 4,494 |
| Edible Food Scraps - Packaged | 8.8% | 18.8% | 2,739 | Paper Products | 13.8% | 33.4% | 3,179 |
| Compostable or Soiled Paper Products | 6.9% | 25.6% | 2,137 | Mixed Cullet | 8.9% | 42.3% | 2,048 |
| Disposable Diapers | 5.9% | 31.6% | 1,845 | Paper Packaging | 6.5% | 48.8% | 1,501 |
| Other Plastic Film | 5.3% | 36.9% | 1,649 | Green Beverage Glass Bottles | 6.3% | 55.1% | 1,442 |
| Non-Edible Food Scraps | 4.6% | 41.4% | 1,423 | Newspaper | 5.0% | 60.1% | 1,160 |
| Textiles | 4.3% | 45.7% | 1,325 | Clear Beverage Glass Bottles | 5.0% | 65.1% | 1,140 |
| Edible Food Scraps - Non-Packaged | 4.0% | 49.7% | 1,257 | Grocery or Shopping Bags | 3.9% | 69.0% | 896 |
| Paper Products | 3.0% | 52.7% | 933 | Non-distinct Fines | 3.2% | 72.2% | 743 |
| Plastic Garbage Bags | 2.3% | 55.0% | 710 | Brown Beverage Glass Bottles | 2.7% | 74.9% | 625 |
| Total for Top Materials | 55.0% | | 17,118 | Total for Top Materials | 74.9% | | 17,228 |



3.6.4 Winter

Figure 10 summarizes the composition findings and analysis of 154 winter residential samples (109 garbage samples and 45 recycling samples).

Total Tonnage

In the winter months, Seattle collected 54,470 tons of garbage and recycling material from residents (SF and MF combined), consisting of 57.3% in garbage (31,217 tons) and 42.7% in recycling (23,254 tons).

Composition by Material Class

- Garbage: **Other Organics** (7,939 tons) accounted for 25.4% of winter residential garbage, **Compostable Organics** (6,444 tons) accounted for 20.6% and **Paper** (5,975 tons) accounted for 19.1%.
- Recycling: **Paper** (13,065 tons) accounted for 56.2% of fall residential recycling, and **Glass** (6,117 tons) accounted for 26.3% of fall residential recycling.

Top Ten Material Types

- Garbage: The top ten material types (by weight) accounted for over 60% of Seattle's winter residential garbage. The most prevalent were *animal by-products* (10.6%), *packaged edible food scraps* (9.6%) and *disposable diapers* (9.2%). Of the top ten material types, one material was curbside recyclable, four materials were recoverable, and one was recoverable through other programs or services.
- Recycling: The top ten material types (by weight) accounted for 78.5% of Seattle's winter residential recycling. The top two materials—*plain OCC or kraft paper* (5,004 tons) and *paper products* (3,396 tons)—made up over a third of the stream. Also, *mixed cullet*; *green and clear beverage glass bottles*; and *paper packaging* each accounted for at least 5% of recycling. All materials on this list were curbside recyclable.

Composition by Recoverability

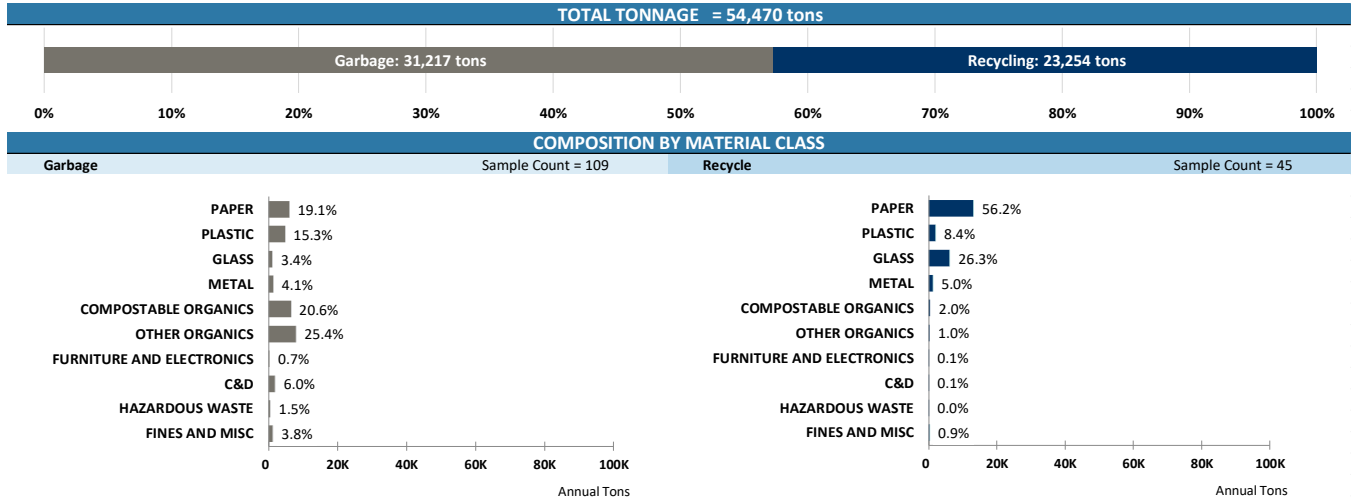
- Garbage: 61% of Seattle's winter residential garbage was recoverable - 18.8% was curbside recyclable, 30.3% was compostable, and 11.6% was recoverable through other programs or services. *Paper products* (2.1% or 651 tons) was the most prevalent of curbside recyclable material types in residential winter garbage.
- Recycling: Curbside recyclables made up 90.9% of Seattle's winter recycling, along with 3.3% compostable, 1.4% other recoverable, and 4.4% was non-recoverable materials. *Mixed or other paper* (about 1.5% or 327 tons) was the most prevalent non-recoverable material type in the winter residential recycling stream.

Capture Rate

The five materials with the highest capture rates were *green* (94.5%) and *brown beverage bottles* (92.7%); *newspaper* (92.4%); *plain OCC or kraft paper* (90.4%); and *clear beverage bottles* (87.7%).

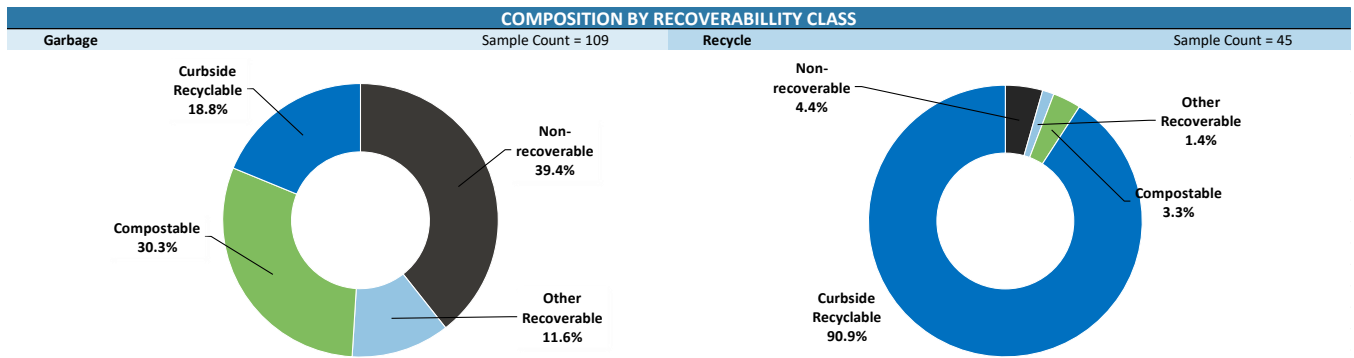
The five materials with the lowest capture rates were *non-compostable food service paper packaging* (17.1%); *empty aerosol cans* (17.9%); *other polycoated containers* (23.6%); *aluminum foil or containers* (24.2%); and *other plastic bottles* (26.9%).

Figure 10: Composition – Garbage and Recycling Combined – Winter



TOP 10 MATERIALS

| Material | Est. | Cum. | Est. Tons | Material | Est. | Cum. | Est. Tons |
|--------------------------------------|--------------|-------|---------------|--------------------------------|--------------|-------|---------------|
| Animal By-products | 10.6% | 10.6% | 3,321 | Plain OCC or Kraft Paper | 21.5% | 21.5% | 5,004 |
| Edible Food Scraps - Packaged | 9.6% | 20.2% | 2,983 | Paper Products | 14.6% | 36.1% | 3,396 |
| Disposable Diapers | 9.2% | 29.4% | 2,881 | Mixed Cullet | 8.4% | 44.5% | 1,951 |
| Compostable or Soiled Paper Products | 8.7% | 38.1% | 2,702 | Green Beverage Glass Bottles | 7.8% | 52.3% | 1,809 |
| Non-Edible Food Scraps | 6.4% | 44.5% | 2,001 | Paper Packaging | 7.0% | 59.3% | 1,635 |
| Other Plastic Film | 4.9% | 49.4% | 1,524 | Newspaper | 5.4% | 64.7% | 1,251 |
| Textiles | 4.1% | 53.4% | 1,273 | Clear Beverage Glass Bottles | 5.3% | 70.0% | 1,224 |
| Edible Food Scraps - Non-Packaged | 3.7% | 57.1% | 1,152 | Grocery or Shopping Bags | 3.4% | 73.4% | 795 |
| Paper Products | 2.1% | 59.2% | 651 | Brown Beverage Glass Bottles | 2.9% | 76.3% | 674 |
| Plastic Garbage Bags | 1.9% | 61.2% | 604 | Aluminum Cans | 2.2% | 78.5% | 505 |
| Total for Top Materials | 61.2% | | 19,092 | Total for Top Materials | 78.5% | | 18,244 |



CAPTURE RATES FOR CURBSIDE RECYCLABLES

| Material | Capture Rate | Tons |
|---------------------------------------|--------------|------------|
| Green Beverage Glass Bottles | 94.5% | 1,914 tons |
| Brown Beverage Glass Bottles | 92.7% | 727 tons |
| Newspaper | 92.4% | 1,354 tons |
| Plain OCC or Kraft Paper | 90.4% | 5,535 tons |
| Clear Beverage Glass Bottles | 87.7% | 1,396 tons |
| Non-Comp Food Service Paper Packaging | 17.1% | 495 tons |
| Empty Aerosol Cans | 17.9% | 55 tons |
| Other Polycoated Containers | 23.6% | 55 tons |
| Aluminum Foil or Containers | 24.2% | 217 tons |
| Other Plastic Bottles | 26.9% | 10 tons |

3.7 Composition by Zones

The following section describes composition results by the four geographic zones from which the residential garbage and recycling samples were collected.

3.7.1 Zone 1

Figure 11 summarizes the composition findings and analysis of 148 Zone 1 residential samples (72 garbage samples and 76 recycling samples).

Total Tonnage

Seattle collected a total of 47,823 tons of garbage and recycling material from residents in Zone 1. Of this, 53% (25,342 tons) was in garbage and 47% (22,481 tons) was in recycling.

Composition by Material Class

- Garbage: **Other Organics** (6,101 tons) accounted for 24.1% of residential garbage in Zone 1; **Compostable Organics** (5,518 tons) and **Paper** (4,812 tons) each accounted for 21.8% and 19.0% of garbage, respectively.
- Recycling: **Paper** (11,191 tons) accounted for 49.8% of Zone 1 residential recycling, and **Glass** (6,078 tons) accounted for 27.0% of recycling.

Top Ten Material Types

- Garbage: The top ten material types (by weight) accounted for over 60% of Zone 1's residential garbage. The most prevalent material types were *packaged edible food scraps* (10.7%) and *animal by-products* (10%). Of the top ten materials, one material was curbside recyclable, four were compostable, and one was recoverable through other programs or services.
- Recycling: The top ten material types accounted for 74.4% of Zone 1's residential recycling. The top two materials—*plain OCC or kraft paper* (3,991 tons) and *paper products* (3,108 tons)—made up over 31% of the stream. In addition, *green or clear beverage glass bottle*, *mixed cullet* and *paper packaging* each accounted for at least 6% of recycling. All materials on this list were curbside recyclable.

Composition by Recoverability

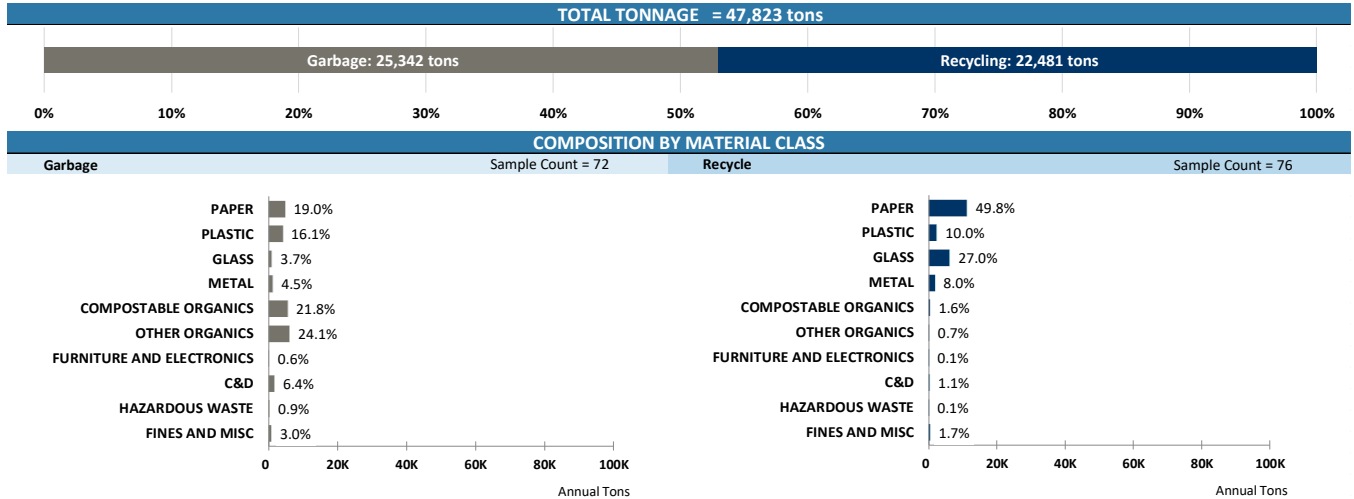
- Garbage: About 61% of Zone 1's residential garbage was recoverable - 18.4% was curbside recyclable, 31.8% was compostable, and 11% was recoverable through other programs or services. *Paper products* (around 2%) was the most prevalent of curbside recyclable in residential garbage.
- Recycling: 90% of Zone 1's recycling was curbside recyclable, 2.5% was compostable, and 5.5% was recoverable through other programs or services. *Non-distinct fines* (about 1.3% or 286 tons) was the most prevalent non-recyclable material in recycling stream.

Capture Rate

The five curbside recyclable materials with the highest capture rates were *green* (95.7%) and *brown* (94.7%) *beverage glass bottles*; *plain OCC or Kraft paper* (92.8%); *newspaper* (92.7%); and *aluminum cans* (92.2%). The five curbside recyclable materials with the lowest capture rates were *non-compostable food service*

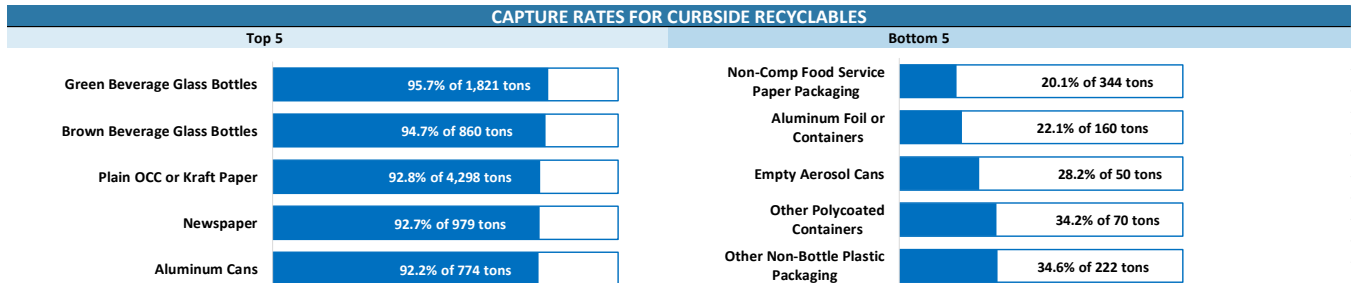
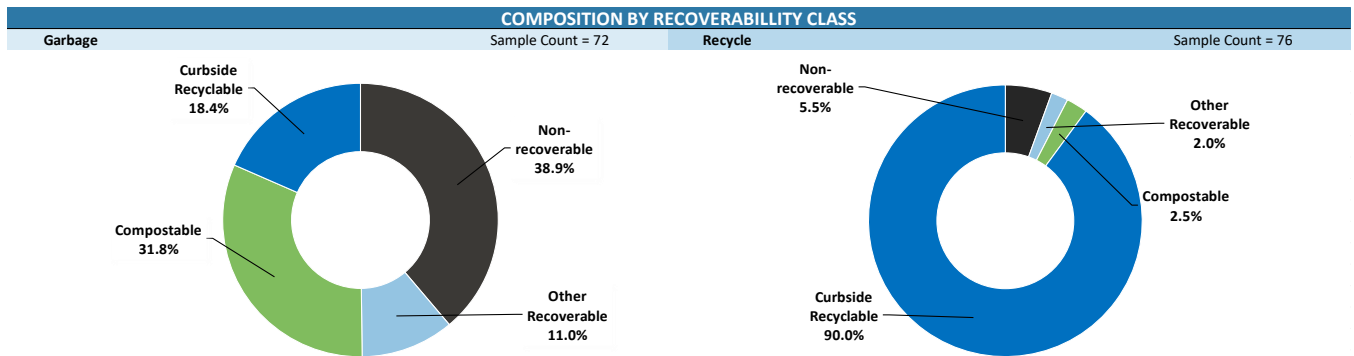
paper packaging (20.1%); aluminum foil or containers (22.1%); empty aerosol cans (28.2%); other polycoated containers (34.2%); and other non-bottle plastic packaging (34.6%).

Figure 11: Composition – Garbage and Recycling Combined – Zone 1



TOP 10 MATERIALS

| Garbage | | Recycle | |
|--------------------------------------|---------------------|--------------------------------|---------------------|
| Material | Est. Cum. Est. Tons | Material | Est. Cum. Est. Tons |
| Edible Food Scraps - Packaged | 10.7% 10.7% 2,719 | Plain OCC or Kraft Paper | 17.8% 17.8% 3,991 |
| Animal By-products | 10.0% 20.8% 2,544 | Paper Products | 13.8% 31.6% 3,108 |
| Compostable or Soiled Paper Products | 8.5% 29.3% 2,154 | Green Beverage Glass Bottles | 7.7% 39.3% 1,742 |
| Disposable Diapers | 7.4% 36.6% 1,868 | Mixed Cullet | 7.1% 46.4% 1,590 |
| Non-Edible Food Scraps | 5.8% 42.4% 1,459 | Paper Packaging | 6.8% 53.2% 1,536 |
| Other Plastic Film | 5.3% 47.7% 1,334 | Clear Beverage Glass Bottles | 6.5% 59.8% 1,466 |
| Edible Food Scraps - Non-Packaged | 4.4% 52.1% 1,119 | Newspaper | 4.0% 63.8% 907 |
| Textiles | 4.4% 56.4% 1,105 | Grocery or Shopping Bags | 3.8% 67.6% 853 |
| Paper Products | 2.1% 58.6% 537 | Brown Beverage Glass Bottles | 3.6% 71.2% 814 |
| Mixed Metals or Materials | 2.0% 60.6% 509 | Aluminum Cans | 3.2% 74.4% 714 |
| Total for Top Materials | 60.6% 15,348 | Total for Top Materials | 74.4% 16,721 |



3.7.2 Zone 2

Figure 12 summarizes the composition findings and analysis of 145 Zone 2 residential samples (73 garbage samples and 72 recycling samples).

Total Tonnage

Seattle collected a total of 56,606 tons of garbage and recycling material from residents in Zone 2. Of this, 57% (32,197 tons) was in garbage and 43% (24,309 tons) was in recycling.

Composition by Material Class

- Garbage: **Other Organics** (8,420 tons) account for 26.2% (by weight) of residential garbage in Zone 2, **Compostable Organics** (6,243 tons) 19.4%, **Paper** (5,647 tons) 17.5%, and **Plastic** (5,322 tons) 16.5%.
- Recycling: **Paper** (13,749 tons) accounted for 56.6% (by weight) of Zone 2 residential recycling, and **Glass** (5,731 tons) accounted for 23.6% of recycling.

Top Ten Material Types

- Garbage: The top ten material types accounted for around 60% of Zone 2's residential garbage. Making up 12%, *animal by-products* was the most prevalent material of this stream. In addition, *packaged edible food scraps* made up 9.7% of Zone 2's garbage. Of the top ten material types, one material was curbside recyclable, four were compostable, and one was recoverable through other programs or services.
- Recycling: The top ten material types accounted for 77.5% of Zone 2's residential recycling. The top two materials—*plain OCC or kraft paper* (5,054 tons) and *paper products* (3,464 tons)— made up about 35% of the stream. In addition, *mixed cullet*, *paper packaging* and *newspaper* each accounted for at least 7% of recycling. All material types on this list were curbside recyclable.

Composition by Recoverability

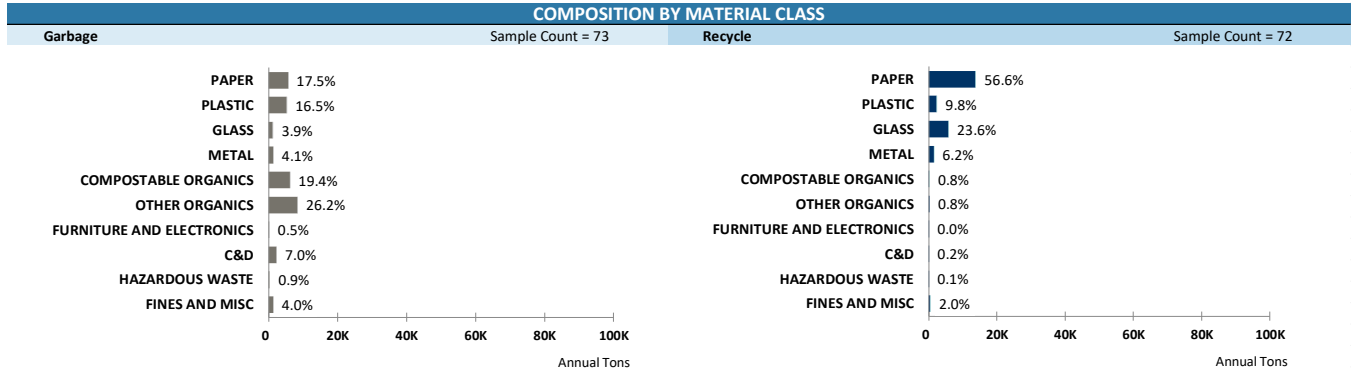
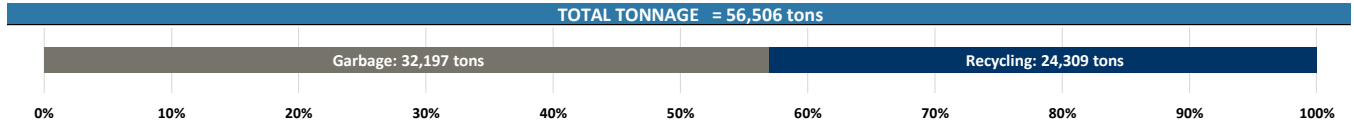
- Garbage: 59% of Zone 2's residential garbage was recoverable - 19.7% was curbside recyclable, 27.8% was compostable, and 11.2% was recoverable through other programs or services. *Paper products* (2.4%) was the most prevalent of curbside recyclable material type in residential garbage.
- Recycling: 91.9% of Zone 2's recycling was curbside recyclable, 1.6% was compostable, and 1.5% was recoverable through other programs or services. *Non-distinct fines* (1.7%) was the most prevalent non-recoverable material type in recycling.

Capture Rate

In order, the five curbside recyclable materials with the highest capture rates were *newspaper* (94.3%); *plain OCC or kraft paper* (93.5%); and *green* (92%), *brown* (89.6%), and *clear* (87.7%) *beverage glass bottles*.

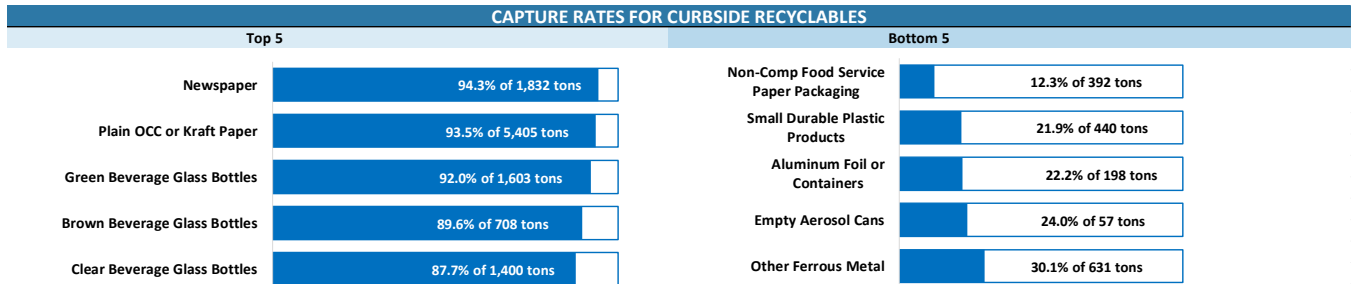
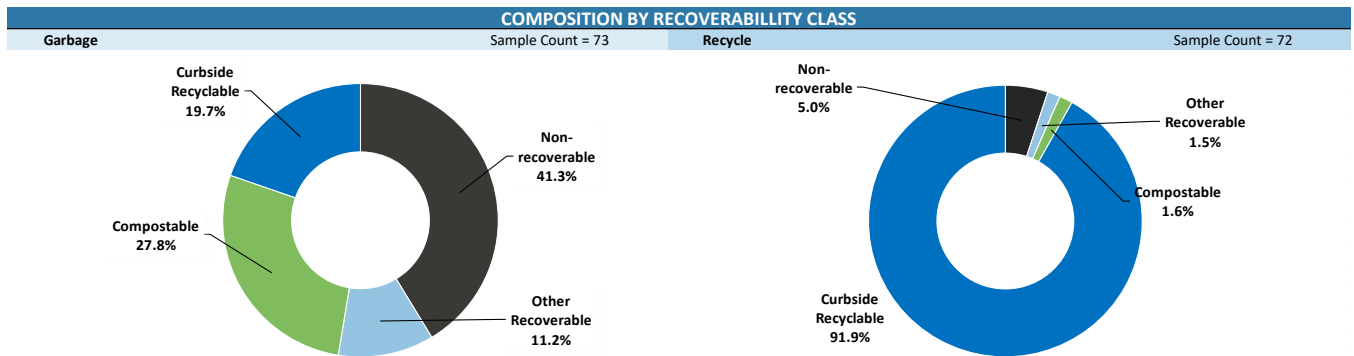
The five curbside recyclable materials with the lowest capture rates were, in order, *non-compostable food service paper packaging* (12.3%); *small durable plastic products* (21.9%); *aluminum foil or containers* (22.2%); *empty aerosol cans* (24%); and *other ferrous metal* (30.1%).

Figure 12: Composition – Garbage and Recycling Combined – Zone 2



TOP 10 MATERIALS

| Material | Est. | Cum. | Est. Tons | Material | Est. | Cum. | Est. Tons |
|--------------------------------------|--------------|-------|---------------|--------------------------------|--------------|-------|---------------|
| Animal By-products | 12.0% | 12.0% | 3,863 | Plain OCC or Kraft Paper | 20.8% | 20.8% | 5,054 |
| Edible Food Scraps - Packaged | 9.7% | 21.7% | 3,133 | Paper Products | 14.2% | 35.0% | 3,464 |
| Disposable Diapers | 7.9% | 29.7% | 2,556 | Mixed Cullet | 7.7% | 42.7% | 1,864 |
| Compostable or Soiled Paper Products | 7.5% | 37.2% | 2,416 | Paper Packaging | 7.2% | 49.9% | 1,757 |
| Non-Edible Food Scraps | 5.5% | 42.7% | 1,767 | Newspaper | 7.1% | 57.0% | 1,727 |
| Other Plastic Film | 5.5% | 48.1% | 1,760 | Green Beverage Glass Bottles | 6.1% | 63.1% | 1,475 |
| Textiles | 3.6% | 51.7% | 1,147 | Clear Beverage Glass Bottles | 5.0% | 68.2% | 1,228 |
| Edible Food Scraps - Non-Packaged | 3.2% | 54.9% | 1,020 | Grocery or Shopping Bags | 4.2% | 72.3% | 1,009 |
| Paper Products | 2.4% | 57.3% | 776 | Brown Beverage Glass Bottles | 2.6% | 74.9% | 634 |
| Mixed Cullet | 2.1% | 59.3% | 660 | PET Bottles | 2.6% | 77.5% | 632 |
| Total for Top Materials | 59.3% | | 19,099 | Total for Top Materials | 77.5% | | 18,846 |



3.7.3 Zone 3

Figure 13 summarizes the composition findings and analysis of 149 Zone 3 residential samples (72 garbage samples and 77 recycling samples).

Total Tonnage

Seattle collected a total of 54,218 tons of garbage and recycling material from residents in Zone 3. Of this, 73.7% (39,981 tons) was in garbage and 26.3% (14,237 tons) was in recycling.

Composition by Material Class

- Garbage: **Paper** (9,094 tons) accounted for 22.7% of residential garbage in Zone 3, **Compostable Organics** (8,006 tons) 20.0%, **Other Organics** (7,378 tons) 18.5%, and **Plastic** (7,162 tons) 17.9%.
- Recycling: **Paper** (7,294 tons) accounted for 51.2% of Zone 3 residential recycling, and **Glass** (4,219 tons) accounted for 29.6% of recycling.

Top Ten Material Types

- Garbage: The top ten material types (by weight) accounted for 54% of Zone 3's residential garbage. Each making up 9.0%, *compostable or soiled paper products* and *packaged edible food scraps* were the most prevalent material types. *animal by-products* and *disposable diapers* each made up 6.2% and 6.0%, respectively, of Zone 3's residential garbage. Of the top ten material types, one material was curbside recyclable, four were compostable, and two were recoverable through other programs or services.
- Recycling: The top ten material types (by weight) accounted for 77.0% of Zone 3's residential recycling. The top two materials—*plain OCC or kraft paper* (2,685 tons) and *paper products* (1,901 tons)—made up 32% of the stream. In addition, *mixed cullet* accounted for 9.5% of recycling. All materials on this list were curbside recyclable.

Composition by Recoverability

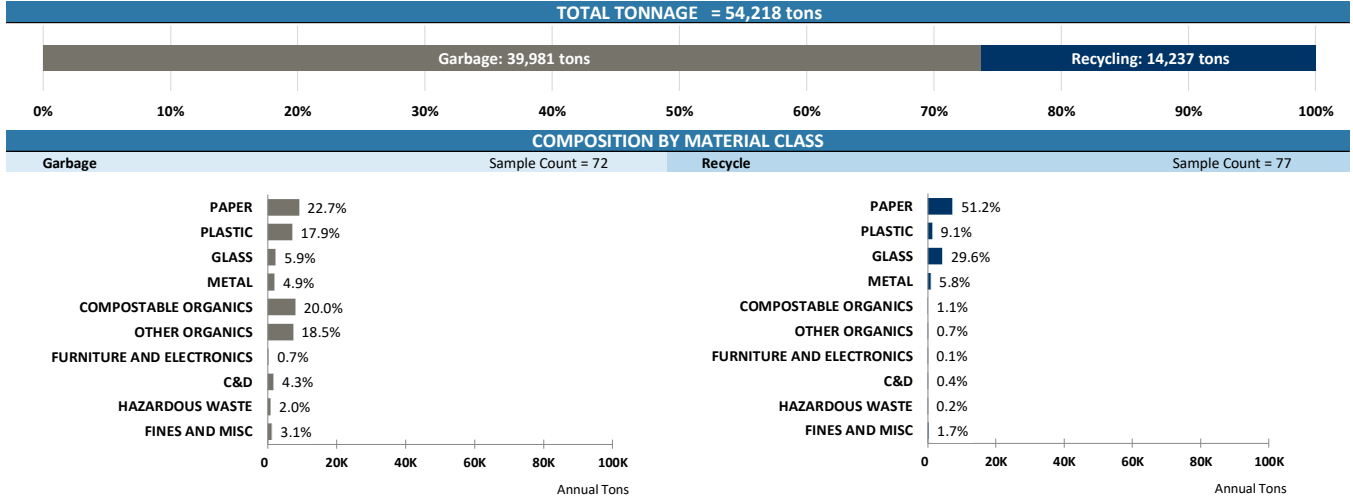
- Garbage: 67.7% of Zone 3's residential garbage was recoverable - 25.5% was curbside recyclable, 30.5% was compostable, and 11.8% was recoverable through other programs or services. *Mixed cullet* (about 3%) were the most prevalent of curbside recyclable material type in residential garbage.
- Recycling: Curbside recyclables made up 90.1% of Zone 3's residential recycling stream, along with 2.1% compostable, 1.4% other recoverable, and 6.4% was non-recoverable materials. *Mixed or other paper* (about 1.9% or 271 tons) was the most prevalent non-recoverable material type.

Capture Rate

The five curbside recyclable materials with the highest capture rates were *brown* (81.6%) and *green* (78.3%) *beverage glass bottles*; *newspaper* (78.2%); *plain OCC or Kraft paper* (76%); and *clear beverage glass bottles* (72.6%).

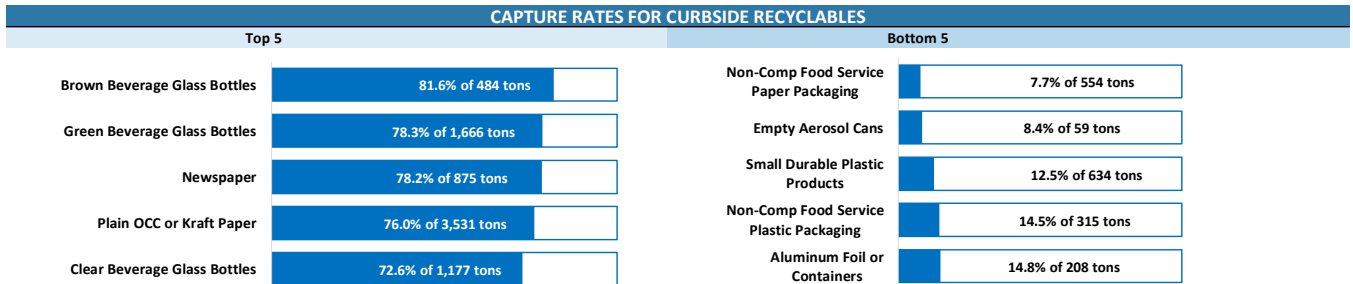
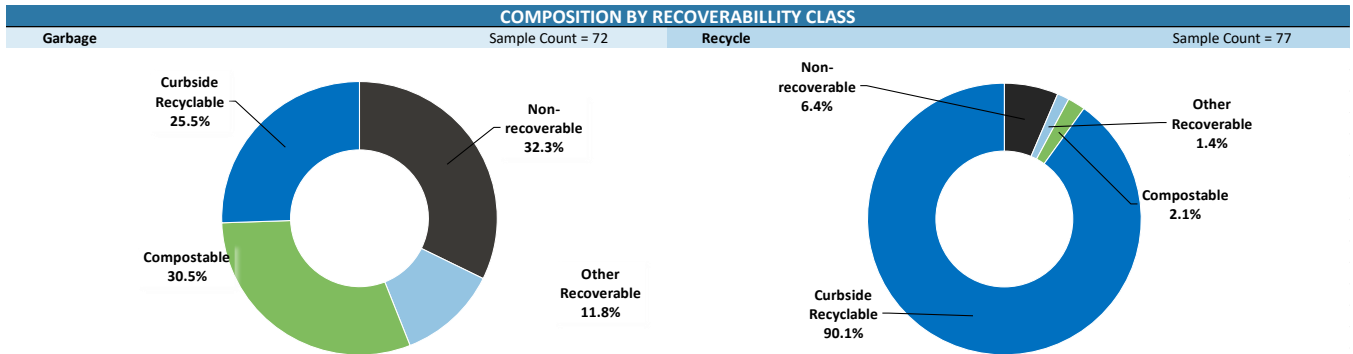
The five curbside recyclable materials with the lowest capture rates were *non-compostable food service paper packaging* (7.7%); *empty aerosol cans* (8.4%); *small durable plastic products* (12.5%); *non-compostable food service plastic packaging* (14.5%); and *aluminum foil or containers* (14.8%).

Figure 13: Composition – Garbage and Recycling Combined – Zone 3



TOP 10 MATERIALS

| Garbage | Sample Count = 72 | Recycle | Sample Count = 77 | | | | |
|--------------------------------------|-------------------|---------|-------------------|--------------------------------|--------------|-------|---------------|
| Material | Est. | Cum. | Est. Tons | Material | Est. | Cum. | Est. Tons |
| Compostable or Soiled Paper Products | 9.0% | 9.0% | 3,606 | Plain OCC or Kraft Paper | 18.9% | 18.9% | 2,685 |
| Edible Food Scraps - Packaged | 9.0% | 18.0% | 3,589 | Paper Products | 13.4% | 32.2% | 1,901 |
| Animal By-products | 6.2% | 24.1% | 2,459 | Mixed Cullet | 9.5% | 41.7% | 1,357 |
| Disposable Diapers | 6.0% | 30.1% | 2,384 | Green Beverage Glass Bottles | 9.2% | 50.9% | 1,304 |
| Non-Edible Food Scraps | 5.5% | 35.6% | 2,191 | Paper Packaging | 6.2% | 57.1% | 884 |
| Other Plastic Film | 5.5% | 41.1% | 2,191 | Clear Beverage Glass Bottles | 6.0% | 63.1% | 855 |
| Edible Food Scraps - Non-Packaged | 4.0% | 45.1% | 1,610 | Newspaper | 4.8% | 67.9% | 684 |
| Textiles | 3.5% | 48.6% | 1,410 | Grocery or Shopping Bags | 3.9% | 71.8% | 549 |
| Mixed Cullet | 3.0% | 51.7% | 1,218 | Brown Beverage Glass Bottles | 2.8% | 74.6% | 395 |
| Paper Products | 2.9% | 54.6% | 1,151 | Aluminum Cans | 2.4% | 77.0% | 346 |
| Total for Top Materials | 54.6% | | 21,811 | Total for Top Materials | 77.0% | | 10,961 |



3.7.4 Zone 4

Figure 14 summarizes the composition findings and analysis of 147 Zone 4 residential samples (72 garbage samples and 75 recycling samples).

Total Tonnage

Seattle collected a total of 53,020 tons of garbage and recycling material from residents in Zone 4. Of this, 42.2% (22,383 tons) was in garbage and 57.8% (30,637 tons) was in recycling.

Composition by Material Class

- Garbage: **Other Organics** (5,308 tons) and **Compostable Organics** (5,253 tons) each formed 23% of residential garbage in Zone 4; **Paper** (4,085 tons), and **Plastic** (3,471 tons) each formed at least 15%.
- Recycling: **Paper** (15,745 tons) accounted for 51.4% of Zone 4 residential recycling, and **Glass** (7,575 tons) accounted for 24.7% of recycling.

Top Ten Material Types

- Garbage: The top ten material types (by weight) accounted for 61.5% of Zone 4's residential garbage. *Packaged edible food scraps* (10.6%) was the most prevalent material in garbage stream. In addition, *animal by-products*, *disposable diapers*, and *compostable or soiled paper products* each made up at least 8% of Zone 4's residential garbage. Of the top ten material types, one material was curbside recyclable, four were compostable, and one was recoverable through other programs or services.
- Recycling: The top ten material types accounted for nearly 73.3% of Zone 4's residential recycling. The top two materials—*plain OCC or kraft paper* (6,276 tons) and *paper products* (4,530 tons)—made up 35% of the stream. In addition, *green and clear beverage glass bottles* and *paper packaging* each accounted for 6% of recycling. All materials on this list were curbside recyclable.

Composition by Recoverability

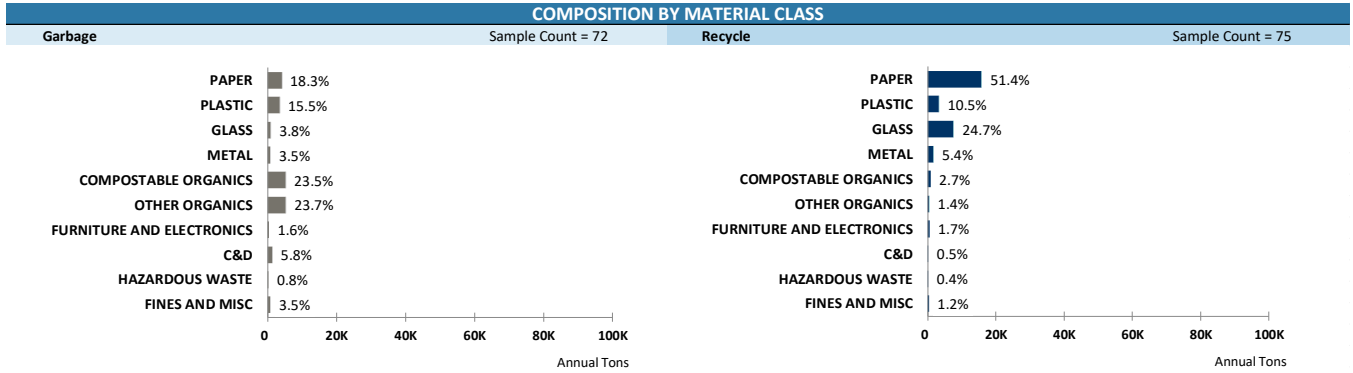
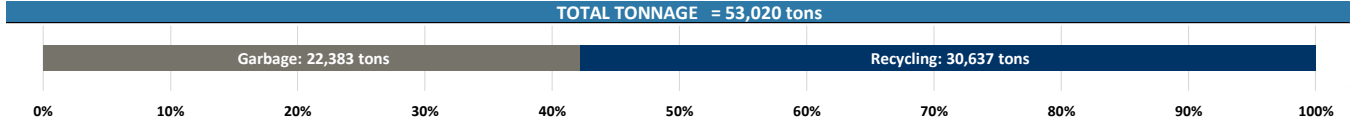
- Garbage: 63.5% of Zone 4's residential garbage was recoverable - 19.1% was curbside recyclable, 32.5% was compostable, and 11.9% was recoverable through other programs or services. *Paper products* (2.5%) was the most prevalent of curbside recyclable material type in residential garbage.
- Recycling: Curbside recyclables made up 86.2% of Zone 3's residential recycling stream, along with 4.3% compostable, 3.9% other recoverable, and 6% was non-recoverable materials. *Non-distinct fines* (about 1% or 318 tons) were the most prevalent non-recoverable material type.

Capture Rate

The five curbside recyclable materials with the highest capture rates were *green beverage glass bottles* (97.6%); *newspaper* (95.2%); *plain OCC or Kraft paper* (94.7%); and *green* (94.4%) and *clear* (93.3%) *beverage glass bottles*.

The five curbside recyclable materials with the lowest capture rates were *non-compostable food service paper packaging* (28.9%); *empty aerosol cans* (33.0%); *aluminum foil or containers* (36.3%); *small durable plastic products* (43.6%); and *other polycoated containers* (46.3%).

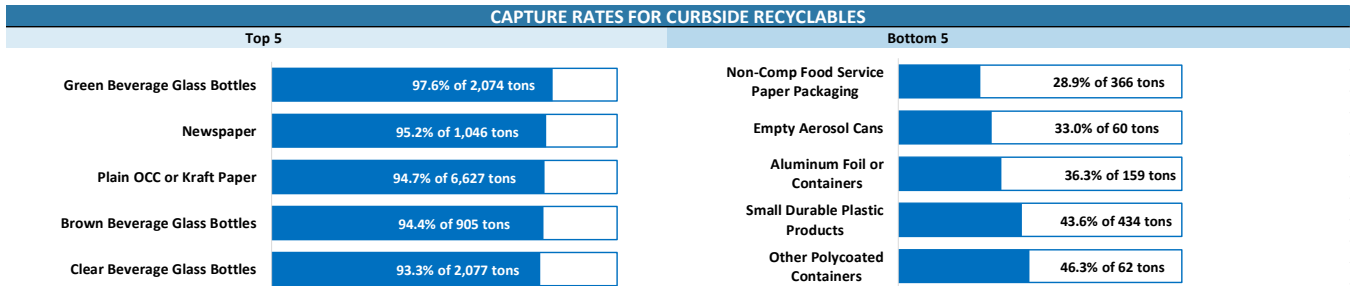
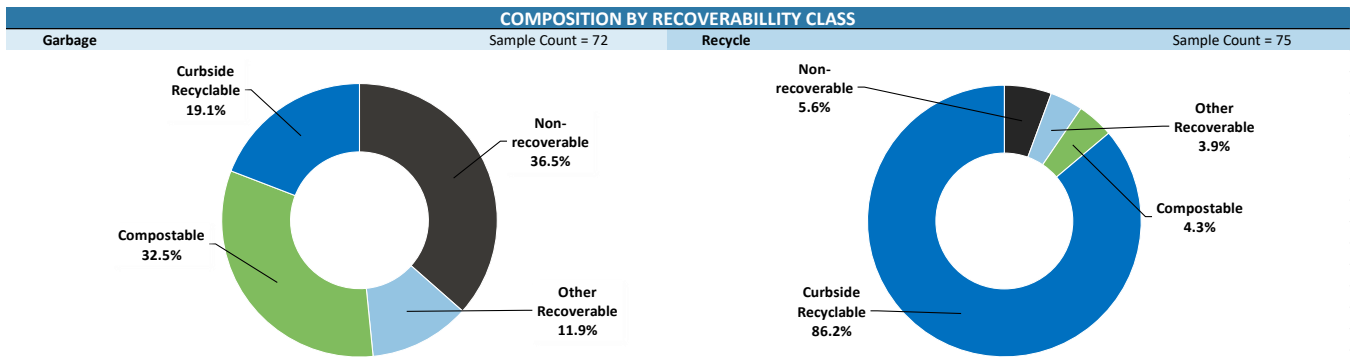
Figure 14: Composition – Garbage and Recycling Combined – Zone 4



TOP 10 MATERIALS

| Material | Est. (%) | Cum. (%) | Est. Tons |
|--------------------------------------|--------------|----------|---------------|
| Edible Food Scraps - Packaged | 10.6% | 10.6% | 2,370 |
| Animal By-products | 9.9% | 20.5% | 2,207 |
| Disposable Diapers | 8.6% | 29.1% | 1,925 |
| Compostable or Soiled Paper Products | 8.1% | 37.2% | 1,819 |
| Non-Edible Food Scraps | 7.2% | 44.4% | 1,609 |
| Other Plastic Film | 4.9% | 49.3% | 1,106 |
| Edible Food Scraps - Non-Packaged | 4.5% | 53.8% | 1,009 |
| Textiles | 3.4% | 57.3% | 771 |
| Paper Products | 2.4% | 59.7% | 540 |
| Mixed Cullet | 1.8% | 61.5% | 410 |
| Total for Top Materials | 61.5% | | 13,766 |

| Material | Est. (%) | Cum. (%) | Est. Tons |
|--------------------------------|--------------|----------|---------------|
| Plain OCC or Kraft Paper | 20.5% | 20.5% | 6,276 |
| Paper Products | 14.8% | 35.3% | 4,530 |
| Mixed Cullet | 7.1% | 42.4% | 2,189 |
| Green Beverage Glass Bottles | 6.6% | 49.0% | 2,024 |
| Paper Packaging | 6.4% | 55.5% | 1,969 |
| Clear Beverage Glass Bottles | 6.3% | 61.8% | 1,938 |
| Newspaper | 3.3% | 65.0% | 996 |
| PET Bottles | 2.9% | 67.9% | 886 |
| Brown Beverage Glass Bottles | 2.8% | 70.7% | 854 |
| Grocery or Shopping Bags | 2.6% | 73.3% | 808 |
| Total for Top Materials | 73.3% | | 22,471 |



3.8 Recycling Composition by Demographics

Consistent with the 2014 residential garbage composition study, Cascadia calculated the composition of single-family recycling considering the median household income and average household size. Single-family residential routes were grouped into quartiles based on the median household income and average household size. Samples from each corresponding first quartile (0 - 25%) of routes were used to calculate recycling compositions for low-income and small households (separately). Samples from each corresponding top quartile (75% - 100%) were used to calculate composition profiles for high-income and large households (separately). Table 8 shows the number of single-family recycling routes included in each demographic quartile. Tonnage data was not available at the demographic quartile level. Therefore, the composition is expressed in percentages only. See [APPENDIX C: DEMOGRAPHIC CALCULATIONS](#) for more details on demographic calculations.

Table 8: Number of samples included in demographic quartiles

| Demographic feature | Quartile 1 | Quartile 4 |
|-------------------------|------------|------------|
| Median Household Income | 62 | 52 |
| Average Household Size | 44 | 59 |

3.8.1 Recycling Composition by Average Household Size (first and last quartiles)

Figure 15 summarizes the residential recycling composition of the 44 samples from the first quartile of average household size (smallest average household size) and 59 samples from the fourth quartile of average household size (largest average household size). The composition of recycling samples from the first and fourth quartiles were similar.

Composition by Material Class

- First quartile (smallest average household size): **Paper** accounted for 52.3% and **Glass** accounted for 27.1% of recycling composition.
- Fourth quartile (largest average household size): **Paper** accounted for 52.7% and **Glass** accounted for 26.9% of recycling composition.

Top Ten Material Type

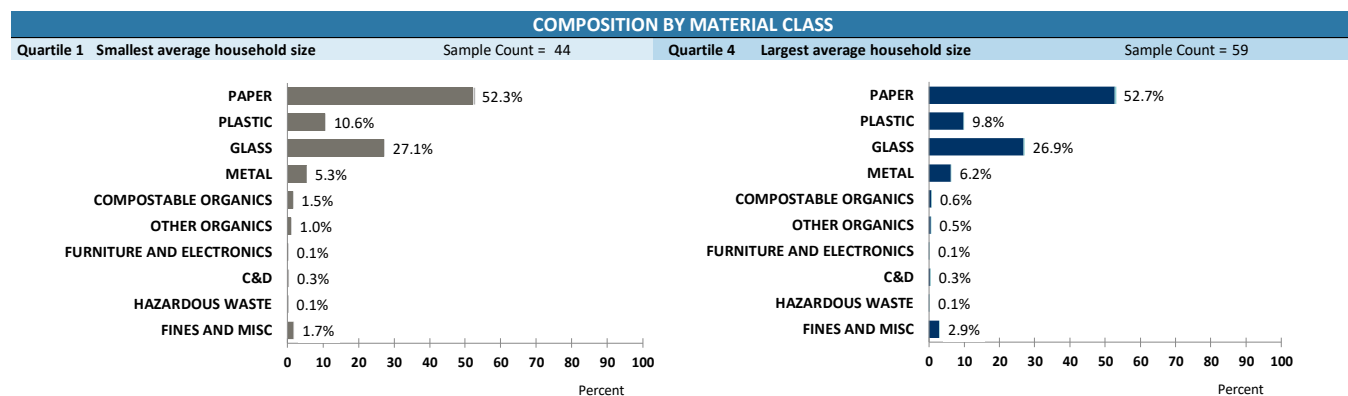
- For both first and fourth quartile recycling samples, the top ten material types (by weight) accounted for 70% of recycling samples. The most prevalent material type for both quartiles was *plain OCC or kraft paper* (20.5% in first quartile, 19.2% in fourth quartile).
- All top ten material types in both quartiles were curbside recyclable.

Composition by Recoverability

- First quartile (smallest average household size): Of the first quartile recycling samples, 90.5% was curbside recyclables, 1.6% was other recoverable, 2.5% was compostable, and 5.4% was non-recoverable. *Non-distinct fines* (1.5%) was the most prevalent non-recoverable material type.

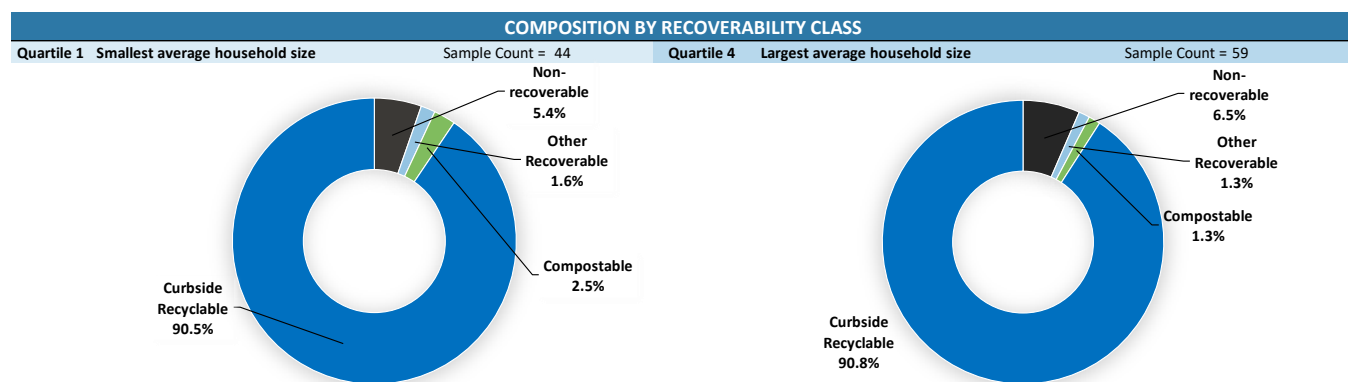
- Fourth quartile (largest average household size): Of the fourth quartile recycling samples, 90.8% was curbside recyclables, 1.3% was other recoverable, 1.3% was compostable, and 6.5% was non-recoverable. *Non-distinct fines* (2.7%) was the most prevalent non-recoverable material type.

Figure 15: Recycling Composition by Demographic Quartile – Average Household Size



TOP 10 MATERIALS

| Quartile 1 Smallest average household size | Quartile 4 Largest average household size |
|--------------------------------------------|-------------------------------------------|
| Sample Count = 44 | Sample Count = 59 |
| Material | Material |
| Est. | Est. |
| Cum. | Cum. |
| Plain OCC or Kraft Paper | Plain OCC or Kraft Paper |
| 20.5% | 19.2% |
| 20.5% | 19.2% |
| Paper Products | Paper Products |
| 13.5% | 14.0% |
| 34.0% | 33.3% |
| Mixed Cullet | Mixed Cullet |
| 8.9% | 9.3% |
| 42.9% | 42.5% |
| Green Beverage Glass Bottles | Green Beverage Glass Bottles |
| 7.4% | 7.4% |
| 50.2% | 50.0% |
| Paper Packaging | Paper Packaging |
| 6.3% | 7.0% |
| 56.5% | 57.0% |
| Clear Beverage Glass Bottles | Clear Beverage Glass Bottles |
| 6.0% | 5.5% |
| 62.6% | 62.5% |
| Newspaper | Newspaper |
| 5.5% | 5.4% |
| 68.1% | 67.9% |
| Grocery or Shopping Bags | Grocery or Shopping Bags |
| 3.2% | 3.9% |
| 71.3% | 71.7% |
| Brown Beverage Glass Bottles | Brown Beverage Glass Bottles |
| 2.9% | 2.8% |
| 74.2% | 74.6% |
| PET Bottles | Aluminum Cans |
| 2.6% | 2.8% |
| 76.8% | 77.3% |
| Total for Top Materials | Total for Top Materials |
| 76.8% | 77.3% |



3.8.2 Recycling Composition by Household Income (first and last quartiles)

Figure 16 summarizes the residential recycling composition of the 62 samples from the first quartile of household income samples (lowest average household income) and 52 samples from the fourth quartile of household income samples (highest average household income).

Composition by Material Class

- First quartile (lowest average household income): **Paper** accounted for 54.5% of recycling composition, and **Glass** accounted for 27.2% of recycling composition.
- Fourth quartile (highest average household income): **Paper** accounted for 49.1% recycling composition, and **Glass** accounted for 27.0% of recycling composition.

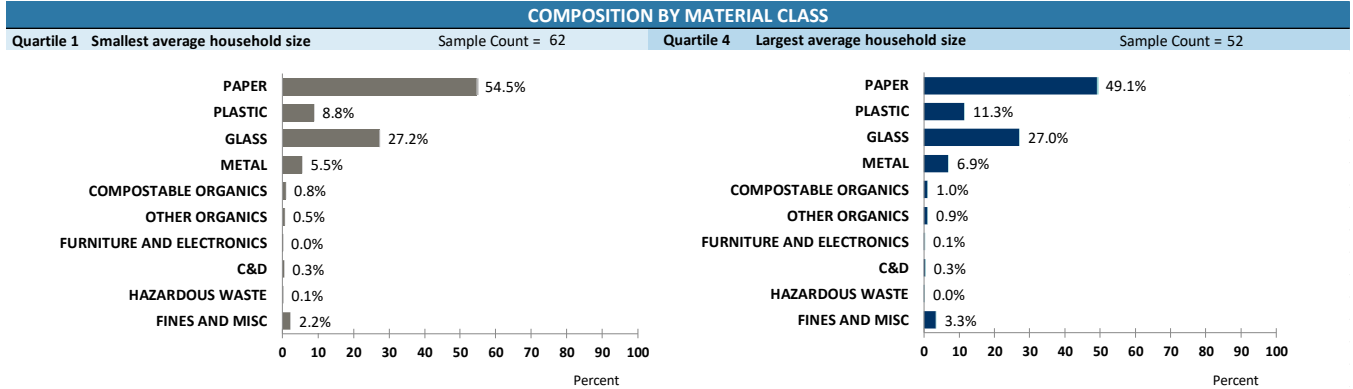
Top Ten Material Types

- First quartile (lowest average household income): The top ten material types accounted for 71% of first quartile recycling samples. Making up 20.4%, the *plain OCC or kraft paper* was the most prevalent material type, by weight. All top ten materials were curbside recyclable.
- Fourth quartile (highest average household income): The top ten material types accounted for 67.8% of fourth quartile recycling samples. Making up 17.2%, the *plain OCC or kraft paper* was the most prevalent material type of the fourth quartile recycling samples. All top ten material types in both quartiles were curbside recyclable in first quartile. Nine out of ten material types were curbside recyclable in second quartile.
- First and fourth quartile recycling samples shared same top ten material types.

Composition by Recoverability

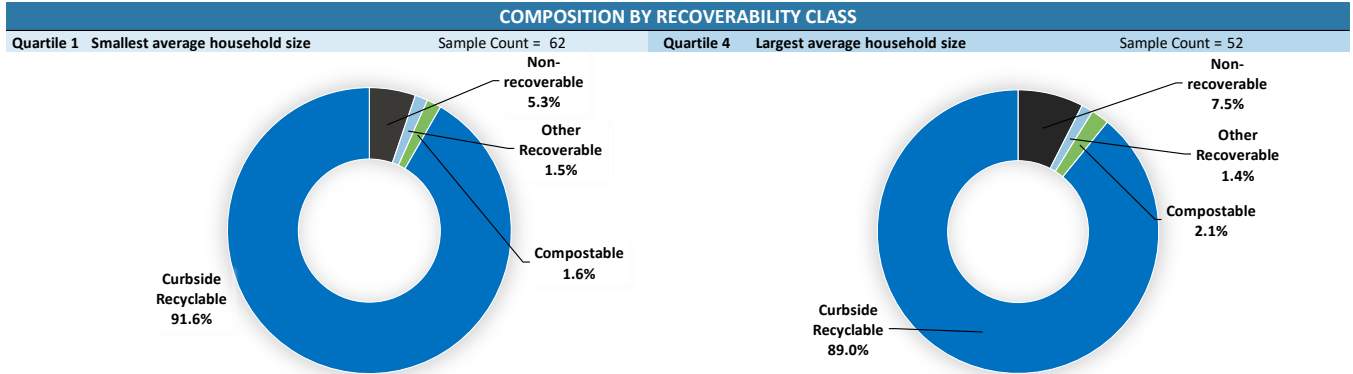
- First quartile (lowest average household income): Of the first quartile recycling samples, 91.6% was curbside recyclables, 1.5% was other recoverable, 1.6% was compostable, and 5.3% was non-recoverable. *Non-distinct fines* (2%) was the most prevalent non-recoverable material.
- Fourth quartile (highest average household income): Of the fourth quartile recycling samples, 89% was curbside recyclables, 1.4% is other recoverable, 2.1% was compostable, and 7.5% was non-recoverable. *Non-distinct fines* (3%) was the most prevalent non-recoverable material.

Figure 16: Recycling Composition by Demographic Quartile - Median Household Income



TOP 10 MATERIALS

| Quartile 1 | Smallest average household size | Sample Count = 62 | Quartile 4 | Largest average household size | Sample Count = 52 |
|--------------------------------|---------------------------------|-------------------|--------------------------------|--------------------------------|-------------------|
| Material | Est. | Cum. | Material | Est. | Cum. |
| Plain OCC or Kraft Paper | 20.4% | 20.4% | Plain OCC or Kraft Paper | 17.2% | 17.2% |
| Paper Products | 15.0% | 35.4% | Paper Products | 12.9% | 30.1% |
| Mixed Cullet | 10.4% | 45.8% | Mixed Cullet | 8.0% | 38.1% |
| Green Beverage Glass Bottles | 7.4% | 53.2% | Green Beverage Glass Bottles | 7.6% | 45.7% |
| Paper Packaging | 6.2% | 59.4% | Paper Packaging | 7.4% | 53.1% |
| Newspaper | 6.0% | 65.5% | Clear Beverage Glass Bottles | 6.0% | 59.1% |
| Clear Beverage Glass Bottles | 5.4% | 70.8% | Newspaper | 4.7% | 63.8% |
| Grocery or Shopping Bags | 3.8% | 74.6% | Grocery or Shopping Bags | 3.6% | 67.4% |
| Aluminum Cans | 2.5% | 77.1% | Non-distinct Fines | 3.0% | 70.4% |
| Brown Beverage Glass Bottles | 2.3% | 79.4% | PET Bottles | 2.8% | 73.3% |
| Total for Top Materials | 79.4% | | Total for Top Materials | 73.3% | |



3.9 Contamination in Recycling

In the 2015 residential recycling stream composition study, the “Contaminants” referred to any item put in recycling bins (including paper, plastic, glass, and metal items) that did not meet the requirements for Seattle’s recycling program (as of 2014-15).

Material types in the 2020 study were grouped into Contaminant classes to enable comparison between 2015 and 2020 lists of contaminants in the recycling stream. [APPENDIX F: CONTAMINANT CLASSIFICATION](#) shows grouping of 2020 study material types into Contaminant classes.

Table 9 shows the percentage (by weight) of the seven contaminant material types in the residential recycling streams across both residential subsectors (overall), for the single-family, and multifamily subsectors. The table also shows the difference (percentage in 2020 minus percentage in 2015) between 2015 and 2020.

- Overall, the percentage of four of the seven contaminant material types decreased between 2015 and 2020. The biggest difference was in non-conforming paper and glass (-0.4% for both).
- In the single-family subsector, the percentage of contaminant material types decreased for all material types except non-conforming plastic.
- In the multifamily subsector, the percentage of contaminant material types decreased in two (non-conforming metal and non-conforming glass) of the seven contaminant material types.
- The percentage of *non-conforming paper* and *other non-recyclables* decreased overall and in the single-family subsector but increased for multifamily subsector.
- The percentage of *non-conforming glass* and that of *non-conforming metal* decreased overall and in both residential subsectors.
- The percentage of *non-conforming plastic* increased overall and in both residential subsectors.
- The percentage of *food, green waste, and wood* increased overall and in the multifamily subsector but decreased in the single-family subsector.
- Overall, the percentage of *textile and clothing* did not change between 2015 and 2020. The percentage of *textile and clothing* decreased in the single-family subsector and increased in the multifamily subsector.

Table 9: Contaminant Material Types, by residential subsector

| Subpopulation and Contaminants | 2015 | 2020 | Change in Percentage (2020-2015) |
|--------------------------------|------|------|----------------------------------|
| Overall Residential | | | |
| Non-conforming Paper | 2.7% | 2.3% | -0.4% |
| Non-conforming Metal | 0.8% | 0.6% | -0.2% |
| Non-Conforming Plastic | 1.4% | 2.1% | 0.7% |
| Non-conforming Glass | 0.6% | 0.2% | -0.4% |
| Food, Green Waste, and Wood | 1.3% | 2.1% | 0.8% |
| Textiles and Clothing | 0.6% | 0.6% | 0.0% |
| Other Non-Recyclables | 3.1% | 2.9% | -0.2% |
| Single-family | | | |
| Non-conforming Paper | 2.6% | 1.9% | -0.7% |
| Non-conforming Metal | 0.8% | 0.6% | -0.2% |
| Non-Conforming Plastic | 1.4% | 1.8% | 0.4% |
| Non-conforming Glass | 0.6% | 0.2% | -0.4% |
| Food, Green Waste, and Wood | 1.3% | 0.9% | -0.4% |
| Textiles and Clothing | 0.6% | 0.4% | -0.2% |
| Other Non-Recyclables | 2.8% | 2.2% | -0.6% |
| Multifamily | | | |
| Non-conforming Paper | 2.9% | 3.3% | 0.4% |
| Non-conforming Metal | 1.0% | 0.6% | -0.4% |
| Non-Conforming Plastic | 1.2% | 2.5% | 1.3% |
| Non-conforming Glass | 0.6% | 0.3% | -0.3% |
| Food, Green Waste, and Wood | 1.2% | 4.4% | 3.2% |
| Textiles and Clothing | 0.8% | 1.2% | 0.4% |
| Other Non-Recyclables | 3.8% | 4.3% | 0.5% |

TRENDS IN RESIDENTIAL GARBAGE AND RECYCLING DISPOSAL

This section describes the trends in Seattle’s residential garbage and recycling streams, based on the total tonnage and composition data from the current study compared to previous studies of the residential garbage and recycling stream to identify trends over time. The findings from 2020 study were compared with findings from earlier studies to identify changes in the composition of Seattle’s garbage and recycling over time. Analytical methodology and more detailed analyses are provided in [APPENDIX I: COMPARISON TO PREVIOUS STUDIES](#).

4.1 Trends in Garbage Tons Based on Study Years

Since 1988, seven garbage disposal studies have been completed. Figure 17 shows the disposed garbage tons in the residential sector from 1988/89 to 2020/21. Results are across all residential sector types, zones, and seasons. Since 1989/99, the disposed garbage decreased by 60,066 tons or 33.4%. Total residential garbage tonnage was lowest in 2014 (112,238 tons). Between the last two studies (2014, 2020/21), the annual garbage disposal tonnage increased 6.8%.

Figure 17: Trends in Residential Garbage Tons – 1988/89 to 2020-21

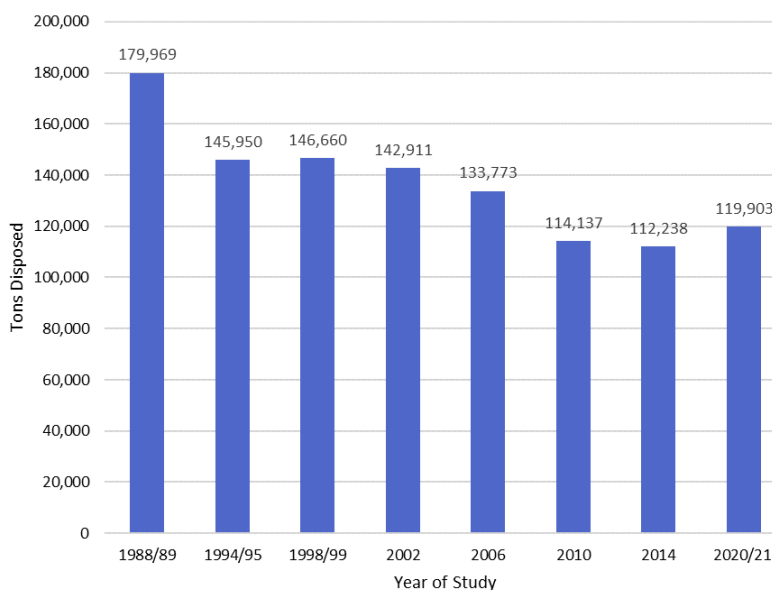


Figure 18(a) shows the trends in disposed garbage by material classes. The numbers reported here were based on a uniform material list that is consistent between study years. All earlier residential garbage studies included here followed the same basic methodology as the present study. Cascadia adjusted the material list from each garbage study to match a uniform material list. The adjustments and recategorization of the garbage material list are mentioned in [APPENDIX G: UNIFORM CLASSIFICATION](#).

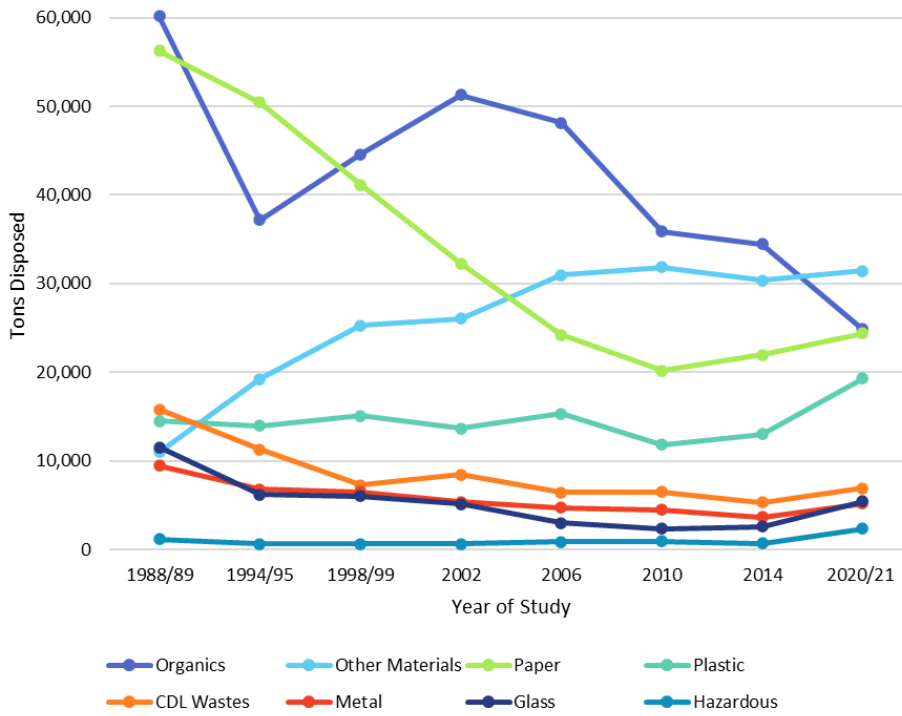
The figure shows the following:

- **Paper.** Between 1988/89 and 2020, disposed paper decreased from 56,220 tons to 24,371 tons (56.6%). The amount of disposed paper decreased consistently from year to year between 1988/89 to 2010. Over this period, disposed paper decreased 64.1%, from 56,220 tons to 20,197 tons. From the lowest point (2010) to this study (2020), disposal of paper increased to 24,371 tons, an increase of 4,174 tons or 20.7% compared to 2010.
- **Plastic.** The tonnage of plastic has fluctuated between study years. Overall, between 1988/89 and 2020, plastic has increased by 32.4% from 14,577 tons in 1988/89 to 19,303 tons in 2020. Plastic tonnage was lowest in 2010 (11,835 tons).
- **Glass.** Since 1988/89, glass has decreased by 52.9% from 11,537 tons in 1988/89 to 5,429 tons in 2020. Glass tonnage was lowest in 2010 at 2,368 tons. Between 2010 and 2020 glass tonnages doubled from 2,368 tons in 2010 to 5,429 tons in 2020.
- **Metal.** Metal tonnage have decreased by 43.4% since 1988/89 from 9,491 in 1988/89 to 5,369 tons. Metal tonnage was lowest in 2014 at 3,701 tons.
- **Organics.** The tonnage of organics in the residential garbage stream decreased by 58.7% since 1988/89. From 1988/89 to 1994/95, there was a substantial decrease in tonnage from 60,145 tons to 37,205 tons. From 1994/95, there was a reversal, with tons increasing from 37,205 to 51,254 in 2002. The trend reversed again and has fallen downward since, from 48,121 tons in 2006 to 24,860 tons in 2020/21.
- **CDL Wastes.** CDL Wastes decreased by 56.3% from 15,830 ton in 1988/89 to 6,911 tons in 2020. The greatest decrease was between 1988/89 and 1998/99 (54.0%)
- **Hazardous.** Hazardous waste fluctuated between study years, but, overall, decreased from 1,192 tons in 1988/89 to 707 tons in 2014. From 2014 to 2020, hazardous tonnages increased to 2,348 tons, more than threefold increase compared to 2014.
- **Other Materials.** Other materials increased by 184.9% from 11,046 tons in 1988/89 to 31,469 tons in 2020. The increase was most prominent between 1988/89 and 2006. Since 2006, Other Materials tonnage has fluctuated just above 30,000 tons.

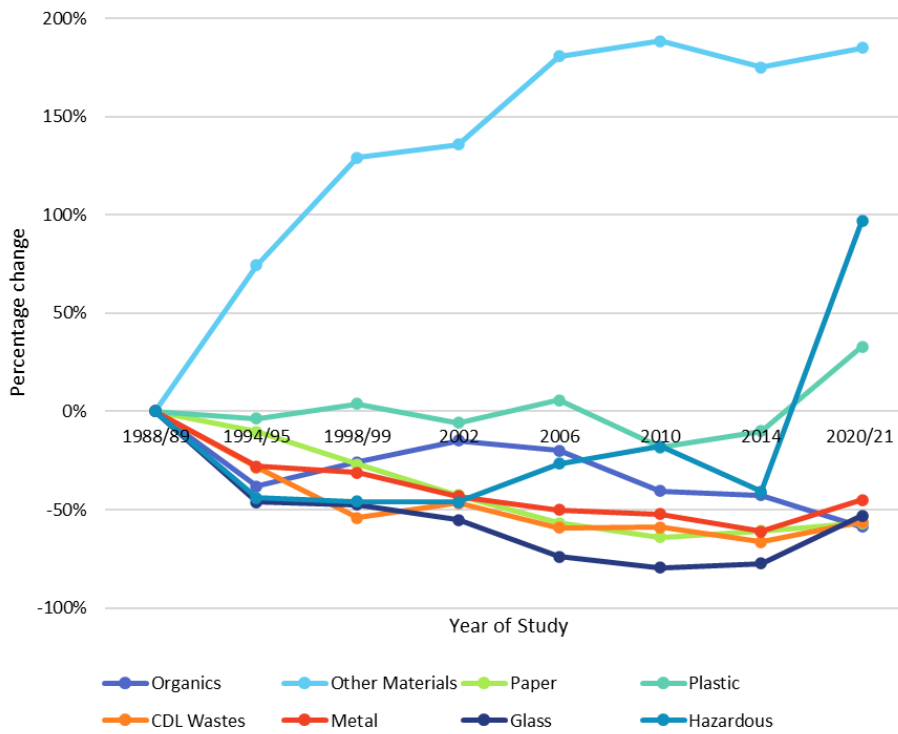
Figure 18(b) shows the changes in garbage disposal tonnages by material classes with respect to 1989 garbage disposal tonnages. Organics, CDL Wastes, Metal, Glass, and Paper all exhibited declines relative to 1988/89 tonnages. Hazardous material exhibited decreased tonnages in all years until 2020. Plastic exhibited fluctuations around no change (0%) until 2020. Other materials exhibited increase tonnage in every year, relative to 1988/89.

Figure 18: Trends and Changes in Garbage Tons by Material Class – 1988/89 to 2020-21

(a): Trends in Garbage Tons by Material Class – 1988/89 to 2020-21



(b): Changes in Garbage Tons by Material Class – 1988/89 to 2020-21



4.2 Trends in Recycling Tons Based on Study Years

Since 2000, five recycling studies have been completed. Figure 19 illustrates the trends and patterns in the recycled tons (across all residential types, zones, and seasons) by residents from 2000/01-2020/21. The overall trend of recycling has increased in total material diverted from 73,926 tons in 2000/01 to 91,664 tons in 2020.

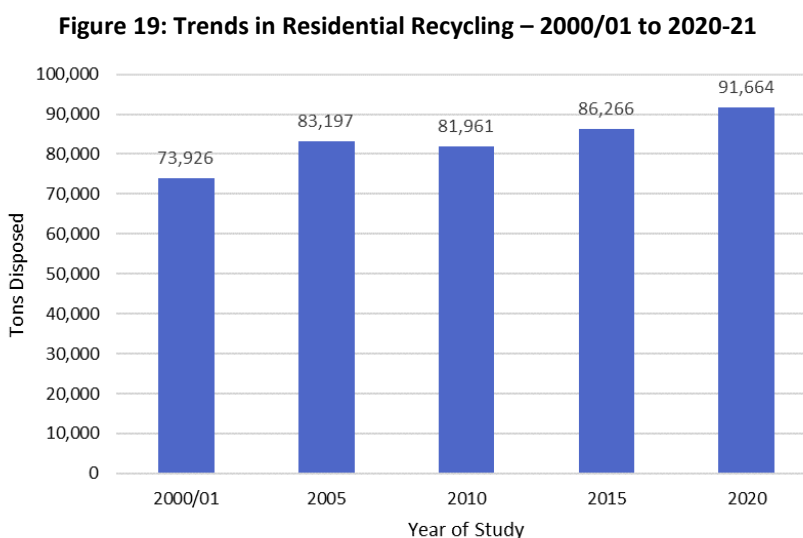


Figure 20(a) shows the trends in recycling by material classes. The numbers reported here were based on a uniform material list that is consistent with prior study years. All earlier residential recycling studies included here followed the same basic methodology as the present study. Cascadia adjusted the material list from each recycling study to match a uniform material list. The adjustments and recategorization of the recycling material list are mentioned in [APPENDIX G: UNIFORM CLASSIFICATION](#).

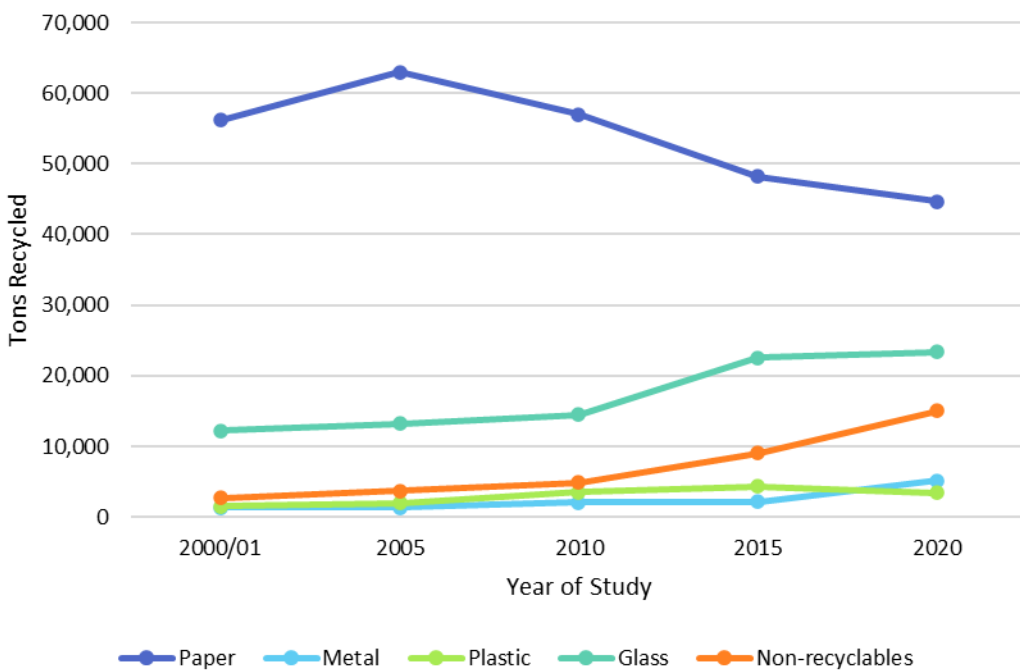
Figure 20 shows the following changes in recycling tonnages over the study years since 2000/01:

- **Paper.** Since 2000/01, paper tonnage has decreased 20.5% from 56,180 tons in 2000/01 to 44,690 tons in 2020. There was an initial increase between 2000/01 and 2005 from 56,180 tons to 63,005 tons but paper tonnage has decreased in the three study years since 2005.
- **Plastic.** Since 2000/01, plastic in recycling has increased by 131.7% from 1,493 tons in 2000/01 to 3,460 tons in 2020. Plastic tonnage was highest in 2015 at 4,311 tons.
- **Glass.** Glass in recycling consistently increased from 2000/01 to 2020. Over this period, glass tonnages by 91.1%, from 12,239 tons in 2000/01 to 23,389 tons in 2020.
- **Metal.** Metal in recycling increased by 292.6% from 1,303 tons in 2000/01 to 5,115 tons. Between 2015 and 2020 the tons of metal in the recycling team more than doubled from 2,151 tons in 2015 to 5,115 tons in 2020.
- **Non-recyclables.** The non-recyclables in recycling increased fivefold over the period of 2000/01 to 2020 from 2,710 tons to 15,009 tons in 2020.

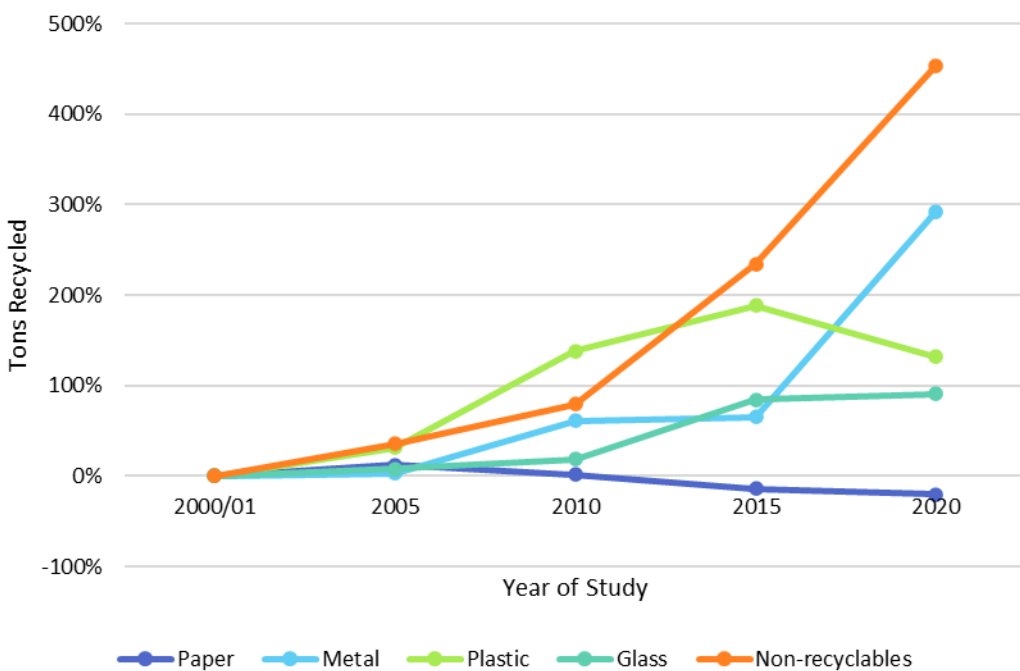
Figure 20(b) shows the changes in recycling tonnages by material classes with respect to 2000/01 recycling tonnages. Relative to 2000/01, the tons of each material class was greater in subsequent years except for paper.

Figure 20: Trends and Changes in Residential Recycling

(a) Trends in Residential Recycling by Material Class – 2000/01 to 2020-21



(b) Changes in Residential Recycling by Material Class – 2000/01 to 2020-21



APPENDIX A: SAMPLING METHODOLOGY

Planning and Communication

Prior to conducting any of the data-collection strategies—sampling, sorting, and surveying—Cascadia worked with Seattle Public Utilities (SPU) and the participating haulers, facilities, and subcontractors to develop a project plan for the Study that provided the framework for all subsequent data collection and analysis strategies. Prior to beginning field work, Cascadia held meetings with hauler and transfer station staff to communicate study objectives and explain all sampling procedures. In addition, the haulers were reminded to notify the drivers of selected vehicles that they were to participate in the sampling activities, and to which transfer station they were expected to deliver their selected load (South Transfer Station (STS) or Republic Services facility at 3rd and Lander). Cascadia confirmed the fieldwork schedule with the facility managers of the facilities at which the sample sorting took place (North and South transfer stations). Transfer station personnel were notified in advance to ensure that all staff were aware of the sampling event. A day or two prior to the sampling event, Cascadia made a final reminder call to ensure that the facility was ready and to resolve any last-minute issues.

Route Selection

Prior to the onset of each fieldwork season, detailed route information was collected from SPU and the two contracted haulers regarding the “universe” of garbage loads hauled to the City’s transfer stations. Cascadia requested an updated list of routes from the haulers that included the collection zone, route number, collection day, and residential sector type. From the lists of routes, the target number of routes were randomly selected to correspond to the number of samples required from each sub-sector on each sampling day (sampled by each residential sector (SF/MF), by stream (garbage or recycling), and by zone (zones 1 through 4) for each day of the fieldwork schedule). This study was designed to sample “pure” loads of single-family and multifamily garbage and recycling only. An additional single-family route and an additional multifamily route was added to the list of routes scheduled on each sampling day. The additional routes provided “contingency samples” that were obtained and sorted if one of the vehicles for the regularly planned collection route failed to arrive on time or was not intercepted in time to obtain a sample (Table 10). Cascadia forwarded this route list to the haulers for verification and confirmation. The hauler verified that route numbers are correct; add truck numbers, driver names, and vehicle arrival times; and return the list.

Table 10: Example Route Selection

| Route # | Date | DoW | Zone | Residential Type | # Loads per Day | Disposal site | Start Time | ETA | Notes |
|---------|---------|-----|------|------------------|-----------------|---------------|------------|-----|-------------|
| A1 | 11/9/20 | Mon | 1 | SF | 1 | STS | 6:00am | UNK | |
| A3 | 11/9/20 | Mon | 2 | SF | 1 | STS | 6:30am | UNK | |
| A4 | 11/9/20 | Mon | 4 | SF | 1 | STS | 6:30am | UNK | |
| B1 | 11/9/20 | Mon | 1 | MF | 3 | STS | 3:00am | UNK | Contingency |
| B2 | 11/9/20 | Mon | 3 | MF | 1 | STS | 5:00am | UNK | |
| B3 | 11/9/20 | Mon | 2 | MF | 3 | STS | 4:00am | UNK | |
| B4 | 11/9/20 | Mon | 4 | MF | 1 | STS | 3:00am | UNK | |

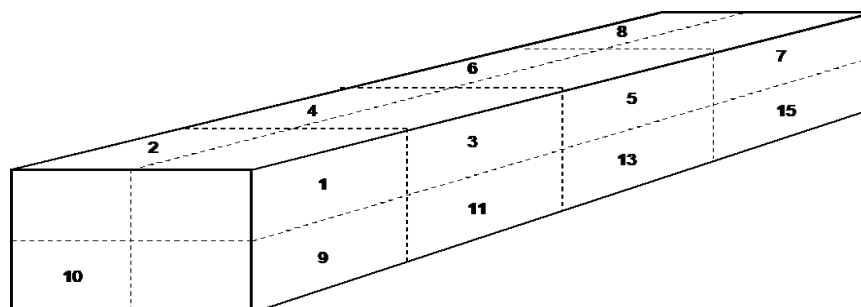
The field supervisors consistently communicated with the hauler contacts throughout the day to receive updated information about the selected routes' estimated times of arrival to the facility. If trucks from the selected routes were to arrive late in the evening, Cascadia developed contingency plans to meet sampling targets. These plans included double sampling selected routes that arrived at the facility if they met zone and residential type specifications. If many selected routes would be arriving in the late evening, the field supervisor also surveyed vehicles arriving at the facility that were not pre-selected by Cascadia, asking the driver for their route number, collection zone, and residential type. The field supervisor had the complete list of routes from the hauler and would review the truck's route information to ensure it met the zone and residential type that they needed to meet the sampling targets. If the route met the specifications, the field supervisor would select that route for sampling and record the route's information.

Field Procedures

The field supervisor coordinated all logistics involving truck selection, sample extraction, sorting area, and disposal of sorted materials with transfer station staff. The field supervisor used the following procedures to obtain garbage and recycling samples from the inbound pre-selected trucks:

1. The route managers instructed the drivers to place the sample placard in the windshield so that the brightly colored sample placard alerted the field supervisor and sorting crew to the presence of a sample.
2. When a selected truck arrived at the facility, the field supervisor confirmed the route details with the driver, including route number, zone, and residential type.
3. The field supervisor instructed the driver of the vehicle to dump the selected load in an elongated pile. The field supervisor chose a sample for extraction using an imaginary 16-cell grid (Figure 21) superimposed over the tipped material. The field supervisor identified a random pre-selected "cell" from the tipped load, representing a cross-section of material from top to bottom. If the site constrains blocked the designated cell, then the field supervisor randomly selected an alternate cell.
4. The field supervisor then instructed the loader operator at the facility to extract the sample from the chosen cell. Approximately 200-250 lbs. of material were extracted for garbage samples and approximately 125 pounds of material were extracted for the recycling samples.

Figure 21. 16-Cell Grid Applied to Selected Loads



5. For garbage samples, the sorting team extracted material onto a large tarp placed near the sorting area. The field supervisor performed a tug test to estimate the weight of the sample. If judged to be too light, the sorting team manually pulled more material from the same cell area and put it on the tarp until the desired weight was achieved. Samples judged to be excessively heavy were pared down by removing a random, homogenous slice of material.

- For recycling samples, the field supervisor requested the loader operator to place the extracted material into two or three 64-gallon carts (Figure 22). When the placement of the material was complete, the field supervisor weighed each sample cart using a scale tared to the weight of an empty 64-gallon cart. If judged to be too light, the sorting team manually pulled additional material from the same cell area and put in the cart until the desired weight was achieved. Samples judged to be excessively heavy were pared down by removing a random, homogenous slice of material.

Figure 22. Sample Extraction – Recycling samples



- The field supervisor placed the sampling placard in the cart or on the tarp for sample identification (Figure 23 and Figure 24).

Figure 23. Sampled Material with Sample Placard - Garbage



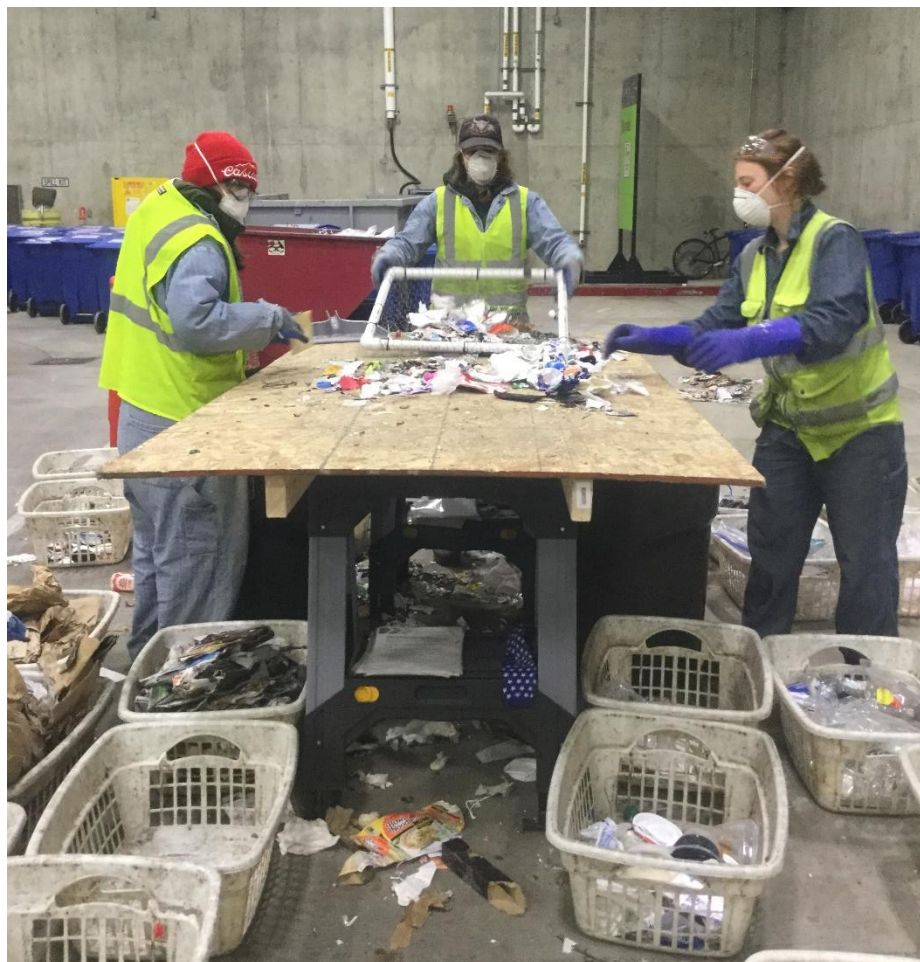
Figure 24. Sampled Material with Sample Placard - Recycling

Hand-sorting Samples

The process for hand-sorting samples was as follows:

1. The field supervisor pulled the cart or the tarp into the sorting area assisted by the field crew.
2. The field supervisor placed the sample placard that identified each sample so it was visible in each photograph. The field supervisor then photographed the sample using a digital camera.
3. The field crew then hand sorted all materials in the sample into the defined categories and placed each material type into individual plastic laundry baskets or barrels.
4. The individual members of the sorting crew specialized in groups of materials such as papers or plastics (Figure 25). A detailed material list is in [APPENDIX D: MATERIAL](#).

Figure 25: Sample Sorting in Progress



5. The Field Crew followed a special process to sort glass materials. This process was as follows:
 - Step 1: Accumulate all glass bottles and containers in a laundry basket (or more than one basket, if there is sufficient material).
 - Step 2: Screen the material using the approximately 1" slots in the baskets to separate the glass into 1" plus material and 1" minus material.
 - Step 3: Sort the material remaining in the basket (the 1" plus material) into the bottle and container material types.
 - Step 4: Complete a "polish" sort on the material that fell through the basket in step 2 (the 1" minus material) to remove the mixed cullet. This means that all readily discernible pieces of glass that fall through the basket was be counted as mixed cullet.
 - Step 5: Include any 1" minus glass remaining after the "polish" sort in the non-distinct fines material type.
 - Step 6: Repeat steps two through five on the additional baskets of glass if there is more than one basket of unsorted material to start with.

6. As sorting proceeded, the field supervisor continually checked the homogeneity of material in the baskets and re-sorted any materials that were improperly classified.

7. The field supervisor then verified the purity of each material as it was weighed in its basket, using a pre-calibrated scale, and recorded each material weight (excluding the weight of the basket) on a digital sampling form on Cascadia’s cloud-based database management system customized for this study.
8. At the conclusion of each sorting day, the field supervisor conducted a quality control review of the data recorded for each sample.
9. The field crew took steps to reduce or eliminate the risk of litter, particularly in open-air environments. A thorough clean-up effort followed each day of work.

Preparing Data Forms

Cascadia developed field forms specific to the sampling strategy and information needed for this study. These forms included:

- A **Vehicle Selection Form** for each day and each location of sampling activity: This form listed the sample quotas specific to each day, by residential type, and was used to select vehicles entering the facility in a random manner for sampling (Figure 26).

Figure 26: Vehicle Selection Sheet

| Vehicle Selection Sheet | | Sampling Date: Tuesday, January 28, 2020 | | | | | | | | | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|------------------------------------------|-------|-----------|--------|------|----------|------------|------------------------------------------|---------------------------|------------------|--------------------|
| Seattle Residential Waste Composition Study | | Facility: South Transfer Station | | | | | | | | | | |
| Instructions | | | | | | | | | | | | |
| 1. When you see a truck with our selected truck number arrive at the station (the truck should have a pink placard on their dashboard), safely approach the driver. | | | | | | | | | | | | |
| 2. Confirm route information with the driver (SF/MF, route #, zone) | | | | | | | | | | | | |
| If we are collecting a multifamily, confirm with the driver that their current load is from multifamily accounts. If they are bringing in a commercial load, confirm their next load will be multifamily. | | | | | | | | | | | | |
| 3. If we are selecting the truck's second load, which means that we will collect a sample from the truck the second time they arrive at the transfer station, confirm with the driver that they will be making a second trip to this transfer station. If they are not, collect a sample from their first load. | | | | | | | | | | | | |
| 4. Collect the truck's sample placard (Unless Sky Valley will collect the placard. Coordinate with Sky Valley.) | | | | | | | | | | | | |
| 5. Work with the load operator and Sky Valley to collect a sample from the truck's load by collecting a sample from the load's random cell #. | | | | | | | | | | | | |
| Sampled? (Y or N) | Time of Arrival | Sample ID | SF/MF | Truck No. | Route | Zone | Hauler | Truck Type | 1 st or 2 nd Load? | Estimated Time of Arrival | Route Start Time | Notes |
| | | MFG - 1201 | MF | | A22I | 1 | WM | RL | 1 | UNK | 5:00am | |
| | | MFG - 1202 | MF | | A22H | 4 | WM | RL | 1 | UNK | 5:00am | |
| | | MFG - 1203 | MF | | A21A | 4 | WM | FL | 1 | UNK | 4:00am | |
| | | MFG - 1204 | MF | | SE-246 | 2 | Recology | RL | 1 | 10:39:34 AM | 6:00 AM | |
| | | MFG - 1205 | MF | | SE-241 | 2 | Recology | RL | 1 | 1:50:33 PM | 4:00 AM | |
| | | MFG - 1206 | MF | | SE-225 | 3 | Recology | FL | 1 | 1:05:39 PM | 4:00 AM | |
| | | MFG - 1207 | MF | | SE-248 | 3 | Recology | RL | 1 | 3:59:47 PM | 5:00 AM | Contingency sample |
| | | SFG - 1201 | SF | | 2304 | 1 | WM | FL | 1 | UNK | 6:00am | |
| | | SFG - 1202 | SF | | 2303 | 1 | WM | FL | 1 | UNK | 6:00am | |
| | | SFG - 1203 | SF | | 2332 | 4 | WM | FL | 1 | UNK | 6:30am | |
| | | SFG - 1204 | SF | | SE-121 | 2 | Recology | RL | 1 | 4:02:10 PM | 7:00 AM | |
| | | SFG - 1205 | SF | | SE-123 | 2 | Recology | RL | 1 | 3:55:43 PM | 7:00 AM | Contingency sample |
| | | SFG - 1206 | SF | | SE-146 | 3 | Recology | RL | 1 | 3:20:34 PM | 7:00 AM | |
| | | SFG - 1207 | SF | | SE-144 | 3 | Recology | RL | 1 | 4:51:58 PM | 7:00 AM | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| Today's Sampling Plan 6 SF, 6 MF | | | | | | | | | | | | |

A **Sample Placard** to flag vehicles selected for sampling. The sample placard is a brightly colored paper sign that the collection truck driver placed on the windshield of every vehicle entering the facility chosen for sampling. The sample placard had pre-printed information about the sample such as the sample ID, collection zone, route number, collection day, and residential type (

- Figure 27).

Figure 27: Sample Placard



- An **Electronic Tally Sheet** included a list of all materials and cells to record the weights of each material type. The field supervisor recorded the weight on a digital sampling form on Cascadia’s cloud-based database management system customized for this study (Figure 28).

Figure 28: Data Entry Form

| Category | Weight | Quantity |
|-----------------------------|--------|----------|
| Newspaper | 3.75 | |
| Plain OCC or Kraft Paper | 18.5 | 1 |
| Waxed OCC or Kraft Paper | | |
| Grocery or Shopping Bags | 4.4 | |
| Paper Packaging | 8 | |
| Paper Products | 18.5 | |
| Aseptic Containers | 0.2 | |
| Gable Top Containers | 0.7 | |
| Other Polycoated Containers | | |

- Cascadia’s cloud-based database management system contains built-in logic and error checking to prevent data entry errors. It also sums sample weights so that the field supervisor can confirm weight targets are achieved. The data is automatically synchronized to a cloud-based database, reducing data loss and transcription errors.

Managing Data

Standard process for characterizing sampled materials included the following steps:

1. The field supervisor continually conducted quality control review of the entered data, and flagged and resolved any anomalies, ensuring completeness of all information for each sample.
2. Following each season of fieldwork, the field supervisor transported all field forms back to Cascadia’s office. The Data Manager verified that all required data were recorded properly and supervised the data entry and data QC process. As an additional step in quality control, randomly selected records were inspected in detail to monitor the accuracy of the data entry process.

Training

At the outset of each season, the field supervisor and sorting crew familiarized themselves with the materials list, field forms, and any unique sorting protocols that were to be employed during the season. On site, the field supervisor was present to provide continual support and supervision. Training for this study also addressed:

- General facility overviews.
- Facility-specific health and safety requirements.
- Personal protective equipment (PPE) requirements.
- Garbage handling techniques.
- Productivity strategies and daily sorting quotas.

Cascadia evaluated each individual sample to ensure that the sorting crew understood each material type and it was interpreted uniformly by each sorting crew.

Health and Safety

The field supervisor ensured that the sorting protocol was followed by each sorting crew, along with the health and safety requirements. Cascadia’s team followed a strict health and safety plan that meets Occupational Safety and Health Administration (OSHA) standards. Due to the impacts of the COVID-19 pandemic, Cascadia adjusted the sampling calendar to reflect health and safety recommendations from local and state public health officials.

APPENDIX B: COMPOSITION CALCULATIONS

This section describes the methodology used to (1) quantify the disposed garbage and recycling, (2) estimate the composition and its associated confidence interval (error range), and (3) calculate the capture rate.

Tonnage Data

SPU provided tonnage data by stream, residential type, zone, and month for the year 2020 (Table 11). Cascadia consolidated the months to compute tonnages for spring, summer, fall, and winter seasons.

Table 11: City of Seattle Residential Garbage and Recycling Tonnage (in Tons), 2020

| Stream | Residential Type | Zone | Spring | Summer | Fall | Winter | TOTAL |
|------------------|------------------|------------|---------------|---------------|---------------|---------------|----------------|
| Garbage | SF | 1 | 4,072 | 4,213 | 4,489 | 4,470 | 17,244 |
| Garbage | SF | 2 | 5,271 | 5,459 | 5,710 | 5,661 | 22,101 |
| Garbage | SF | 3 | 3,011 | 3,018 | 3,345 | 3,449 | 12,823 |
| Garbage | SF | 4 | 3,472 | 3,549 | 3,824 | 3,865 | 14,710 |
| Garbage | SF | All | 15,827 | 16,238 | 17,368 | 17,445 | 66,878 |
| Garbage | MF | 1 | 1,938 | 1,900 | 2,111 | 2,149 | 8,099 |
| Garbage | MF | 2 | 2,540 | 2,375 | 2,593 | 2,589 | 10,096 |
| Garbage | MF | 3 | 6,688 | 6,379 | 7,053 | 7,038 | 27,158 |
| Garbage | MF | 4 | 1,941 | 1,739 | 1,997 | 1,996 | 7,673 |
| Garbage | MF | All | 13,107 | 12,393 | 13,754 | 13,772 | 53,026 |
| Garbage | All | All | 28,934 | 28,631 | 31,122 | 31,217 | 119,903 |
| Recycling | SF | 1 | 3,981 | 3,862 | 3,995 | 4,075 | 15,913 |
| Recycling | SF | 2 | 5,093 | 4,938 | 5,056 | 5,113 | 20,200 |
| Recycling | SF | 3 | 2,898 | 2,814 | 2,914 | 2,956 | 11,582 |
| Recycling | SF | 4 | 3,400 | 3,382 | 3,391 | 3,478 | 13,650 |
| Recycling | SF | All | 15,371 | 14,996 | 15,357 | 15,622 | 61,345 |
| Recycling | MF | 1 | 1,796 | 1,591 | 1,548 | 1,634 | 6,568 |
| Recycling | MF | 2 | 1,079 | 992 | 1,010 | 1,029 | 4,109 |
| Recycling | MF | 3 | 705 | 634 | 680 | 636 | 2,654 |
| Recycling | MF | 4 | 4,040 | 4,207 | 4,409 | 4,332 | 16,987 |
| Recycling | MF | All | 7,619 | 7,422 | 7,646 | 7,632 | 30,318 |
| Recycling | All | All | 22,989 | 22,418 | 23,002 | 23,254 | 91,664 |
| All | All | All | 51,923 | 51,050 | 54,124 | 54,470 | 211,567 |

Cascadia used this tonnage data to convert percent composition into estimated tonnages.

Estimating Composition

For a given stratum, the composition estimate denoted by r_j represents the ratio of the material type weight to the total weight of all the samples in the stratum. This estimate was derived by summing each the weight of each material type across all the selected samples belonging to a given stratum and dividing by the sum of

the total weight of garbage or recycling for all the samples in that stratum, as shown in the following equation:

$$r_j = \frac{\sum_i c_{ij}}{\sum_i w_i} \quad (1)$$

where:

- r_j = composition estimate for material j (r stands for *ratio*)
- c = weight of particular material type
- w = sum of all material type weights
- for $i = 1$ to n , where n = number of selected samples
- for $j = 1$ to m , where m = number of material types

For example, the following simplified scenario involves three samples. For the purposes of this example, only the weights of *carpet* are shown.

| | SAMPLE 1 | SAMPLE 2 | SAMPLE 3 |
|-------------------------|----------|----------|----------|
| Weight (c) of carpet | 5 | 3 | 4 |
| Total Sample Weight (w) | 80 | 70 | 90 |

$$r_{Carpet} = \frac{5 + 3 + 4}{80 + 70 + 90} = 0.05$$

To find the composition estimate for the *carpet*, the weights for that material are added for all selected samples and divided by the total sample weights of those samples. The resulting composition is 0.05, or 5 percent. In other words, 5 percent of the sampled material, by weight, is *carpet*.

Composition results for strata were then combined, using a weighted averaging method, to estimate the composition of larger portions of the garbage sector. The relative tonnages associated with each stratum served as the weighting factors. The calculation was performed as follows:

$$O_j = (p_1 * r_{j1}) + (p_2 * r_{j2}) + (p_3 * r_{j3}) + \dots \quad (5)$$

where:

- p = the proportion of tonnage contributed by the noted garbage stratum (the weighting factor)
- r = ratio of material type weight to total garbage weight in the noted garbage stratum (the composition percent for the given material type)

- for $j = 1$ to m , where m = number of material types

The confidence interval for this estimate was derived in two steps. First, the variance around the estimate was calculated, accounting for the fact that the ratio included two random variables (the material type and total sample weights). The variance of the ratio estimator equation follows:

$$\text{Var}(r_j) \approx \left(\frac{1}{n}\right) \left(\frac{1}{\bar{w}^2}\right) \left(\frac{\sum_i (c_{ij} - r_j w_i)^2}{n-1}\right) \quad (2)$$

where:

$$\bar{w} = \frac{\sum_i w_i}{n} \quad (3)$$

(For more information regarding Equation 2, refer to *Sampling Techniques, 3rd Edition* by William G. Cochran [John Wiley & Sons, Inc., 1977].)

Second, the error range at the 90 percent confidence level was calculated for a material type's mean as follows:

$$r_j \pm (z \sqrt{\text{Var}(r_j)}) \quad (4)$$

where z = the value of the z -statistic (1.645) corresponding to a 90 percent confidence level.

For example, the above equation is illustrated here using three waste strata.

| | Stratum 1 | Stratum 2 | Stratum 3 |
|-------------------------------|-----------|-----------|-----------|
| Ratio (r) of carpet | 5% | 10% | 10% |
| Tonnage | 25,000 | 100,000 | 50,000 |
| Proportion of tonnage (p) | 14.3% | 57.1% | 28.6% |

To estimate the portion of larger portions of the waste stream, the composition results for the three strata are combined as follows.

$$O_{\text{Carpet}} = (0.143 * 0.05) + (0.571 * 0.10) + (0.286 * 0.10) = 0.093 = 9.3\%$$

Therefore, 9.3 of this examined portion of the waste stream is *carpet*.

The variance of the weighted average was calculated as follows:

$$\text{Var}(O_j) = (p_1^2 \text{Var}(r_{j1})) + (p_2^2 \text{Var}(r_{j2})) + (p_3^2 \text{Var}(r_{j3})) + \dots \quad (6)$$

At the statewide level there are 24 weighting factors (one factor for each of the four sectors in each of the six WGA).

Confidence Intervals

The example in Table 12 below illustrates how the confidence intervals are interpreted. Using this example data, the best estimate of the amount of *Leaves and Grass* present in the overall garbage is 2.9 percent. The 1.6 percent figure reflects the precision of the estimate. When calculations are performed at the 90 percent confidence level, we are 90 percent certain that the true mean for Leaves and Grass is between 4.5 percent (2.9% plus 1.6%) and 1.3 percent (2.9% minus 1.6%).

Table 12: Example Percent Composition and Confidence Interval

| MATERIAL | EST. % | + / - |
|-------------------------|-----------|-------|
| <i>Leaves and Grass</i> | 2.9% | 1.6% |

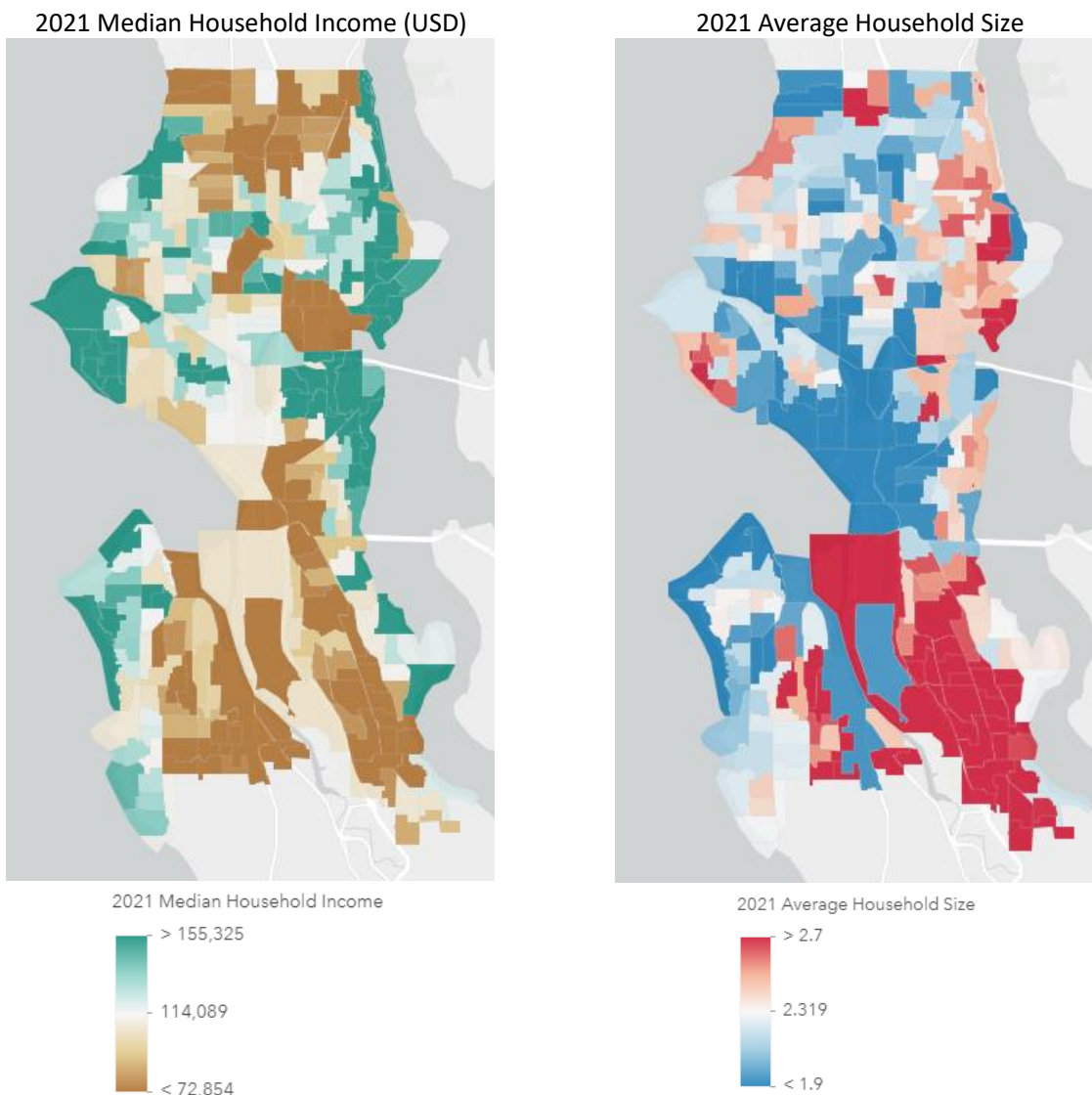
Rounding

When interpreting the results presented in the tables and figures in this report, it is important to consider the effect of rounding. To keep the garbage composition tables and figures readable, estimated percentages were rounded to the nearest tenth of a percent. Due to rounding, the data presented in the report, when added together, may not exactly match the subtotals and totals shown. Percentages less than 0.05 percent are shown as 0.0 percent, even though there may have been a small amount of material.

APPENDIX C: DEMOGRAPHIC CALCULATIONS

This section describes the methodology used to calculate composition of Seattle’s recycling stream for sub-sectors based on two demographic characteristics – median household income and average household size. SPU provided GIS files showing the single-family residential routes to Cascadia. Cascadia used ArcGIS Online to retrieve and process⁹ household size and median household income¹⁰ data for the single-family residential routes. Figure 29 shows the distribution of median household income and average household size across different single-family residential routes in the Seattle.

Figure 29: City of Seattle Single-family Residential Routes by Demographic Attribute



⁹ Enrich feature: <https://doc.arcgis.com/en/arcgis-online/analyze/enrich-layer.htm>

¹⁰ ESRI Demographics: <https://doc.arcgis.com/en/esri-demographics/data/us-data-fact-sheet.htm>

After estimating the demographic information for the samples single-family routes, Cascadia divided the sampled routes into quartiles based on the median income and mean household size of each recycling route. Recycling samples from the first (0 - 25%) quartile were used to calculate “low median income” or “low mean household size” recycling compositions and samples from the top quartile (75% - 100%) were used to calculate “high median income” or “high mean household size” recycling compositions. Once the recycling samples were identified as belonging to one of these four demographic groups, recycling composition calculations were performed as described above under [APPENDIX B: COMPOSITION CALCULATIONS](#).

APPENDIX D: MATERIAL CLASSIFICATION LIST

Complete list and description of material classes and material types used in the study. Changes to the material list are also described.

Paper

1. **Newspaper:** Printed ground wood newsprint. Includes advertising “slicks” (glossy paper), if found mixed with newspaper; otherwise, ad slicks are included with paper products.
2. **Plain OCC/Kraft Paper:** Old unwaxed/uncoated corrugated container boxes and Kraft paper.
3. **Waxed OCC:** Old waxed/coated corrugated container boxes and Kraft paper.
4. **Grocery/Shopping Bags:** Paper grocery and shopping bags. Includes all brown paper bags and bags with non-paper handles.
5. **Paper Packaging:** High-grade paper and mixed low-grade paper packaging. Includes cereal and cracker boxes, egg cartons, frozen/refrigerator packaging, and bleached Kraft. Excludes juice concentrate cans.
6. **Paper Products:** High-grade paper and mixed low-grade paper products. Includes white and lightly colored bond, rag, or stationary grade paper, including white or lightly colored sulfite/sulfate bond, copy papers, carbonless copy paper, notebook paper, envelopes, mailing tubes, continuous-feed sulfite/sulfate computer printouts and forms, junk mail, magazines, colored papers, ground wood computer printouts, paperback books, telephone directories, and spiral notebooks. Excludes carbon copy paper.
7. **Aseptic Containers:** Multi-layer paper packing designed to keep food and other putrescible contents fresh, including those with plastic spouts attached. Includes items like paper soup cartons and paper juice cartons.
8. **Gable Top Containers:** Polycoated paper packaging often used for liquid products such as milk, plant-based beverages, and juice, including those with plastic spouts attached. Most are opened by pushing open with a screw top closure or the gables at the top back and pulling the top (spout) out.
9. **Other Polycoated Containers:** Polycoated containers that are not aseptic containers or gable top containers. Includes items like ice cream cartons.
10. **Compostable/Soiled Paper Products:** Paper towels, waxed paper, tissues, and other papers that were soiled with food during use.
11. **Compostable Single-Use Food Service Paper Packaging:** Pizza boxes, pizza box inserts, paper plates, bowls, and cups, including wax-coated paper plates, bowls and cups and items labeled “compostable.” Excludes items with visible plastic coating or lining unless the item is clearly labeled compostable.
12. **Non-Compostable Single-Use Food Service Paper Packaging:** Paper plates, bowls, and cups not labeled “compostable” and that appear to have a plastic lining or coating.
13. **Shredded Paper:** Long shreds (at least 8 ½ inches long and ¼ inch wide) in a clear plastic bag, tied off. Does not include confetti or crosscut shreds.
14. **Mixed/Other Paper:** Predominantly paper with other materials attached (e.g., orange juice cans), and other non-recyclable papers such as carbon copy paper, hardcover books, and photographs. Includes shredded paper that is less than 8 ½ inches long and ¼ inch wide (confetti and crosscut shreds).

Plastic

15. **#1 PET Bottles and Jars:** Blow-molded polyethylene terephthalate (#1) bottles and jars excluding toxic product containers. When marked for identification, it bears the number "1" in the center of the triangular recycling symbol and may also bear the letters "PETE" or "PET." Examples include plastic water, soda, and juice bottles.
16. **#2 HDPE Natural Bottles and Jars:** Blow-molded high-density translucent polyethylene (#2) bottles and jars **excluding toxic product containers**. When marked for identification, it bears the number "2" in the triangular recycling symbol and may also bear the letters "HDPE." These bottles and jars are a cloudy white color, allowing light to pass through it. Examples include milk, juice, beverage, oil, vinegar, and distilled water.
17. **#2 HDPE Colored Bottles and Jars:** Blow-molded high-density colored polyethylene (#2) bottles and jars excluding toxic product containers. When marked for identification, it bears the number "2" in the triangular recycling symbol and may also bear the letters "HDPE." These bottles and jars are a solid color, preventing light from passing through it. Examples include liquid detergent bottles and some hair care bottles.
18. **#5 PP Bottles and Jars:** Blow-molded polypropylene (#5) bottles and jars excluding toxic product containers. When marked for identification, it bears the number "5" in the triangular recycling symbol and may also bear the letters "PP." Examples include condiment bottles.
19. **Other Plastic Bottles and Jars:** Blow-molded bottles and jars made of types of plastic other than HDPE, PET, or polypropylene. When marked for identification, these items may bear the number "3", "4", "6", or "7" in the triangular recycling symbol. This material type also includes unmarked plastic bottles. Examples include baby wipe containers, food containers, prescription vials, and shampoo bottles. Excludes toxic product containers and #7 PLA bottles.
20. **#1 PET Non-Bottle Packaging:** Polyethylene terephthalate (#1) non-bottle packaging. When marked for identification, it bears the number "1" in the center of the triangular recycling symbol and may also bear the letters "PETE" or "PET." Excludes toxic product containers. Examples include salsa tubs. Includes #1 PET lids greater than 3 inches in diameter.
21. **#2 HDPE Non-Bottle Packaging:** High-density translucent polyethylene (#2) non-bottle packaging. When marked for identification, it bears the number "2" in the triangular recycling symbol and may also bear the letters "HDPE." Excludes toxic product containers. Examples include yogurt and margarine tubs. Includes #2 HDPE lids greater than 3 inches in diameter.
22. **#5 Non-Bottle Packaging:** Polypropylene (#5) non-bottle packaging. When marked for identification, it bears the number "5" in the triangular recycling symbol and may also bear the letters "PP." **Excludes toxic product containers.** Examples include yogurt containers. Includes #5 PP lids greater than 3 inches in diameter.
23. **Other Non-Bottle Packaging:** Non-bottle packaging made of types of plastic other than HDPE, PET, or polypropylene. When marked for identification, these items may bear the number "3", "4", "6", or "7" in the triangular recycling symbol. This material type also includes unmarked plastic non-bottle packaging. Examples include cookie tray inserts, plastic spools, plastic frozen food trays, plastic toothpaste tubes, and disposable plant pots. Includes #3, 4, 6, and 7 lids greater than 3 inches in diameter. Excludes toxic product containers and #7 PLA non-bottle packaging.
24. **Expanded Polystyrene Food-Grade:** "Styrofoam" products used to contain food such as "clamshells," cups, plates, and bowls.
25. **Expanded Polystyrene Non-Food Grade:** Includes non-food packaging and finished products made of expanded polystyrene. Excludes Styrofoam products such as cups, plates, and bowls and rigid foam insulation.

26. **Rigid Polystyrene Foam Insulation:** Rigid panels of expanded polystyrene used to insulate walls and roofs. Excludes non-polystyrene rigid foam insulation.
27. **Compostable Single-Use Food Service Plastic Utensils:** Includes forks, spoons, knives, and straws labeled “compostable.”
28. **Compostable Single-Use Food Service Plastic Packaging:** Includes clamshells, cups, cup lids, plates, bowls, salad trays, and other food service packaging labeled “compostable.”
29. **Non-Compostable Single-Use Food Service Plastic Utensils:** Includes forks, spoons, knives, and straws **not** labeled “compostable.”
30. **Non-Compostable Single-Use Food Service Plastic Packaging:** Includes clamshells, cups, cup lids, plates, bowls, salad trays, and other food service packaging **not** labeled “compostable.” Excludes clamshells, cups, plates, bowls, and other food service items made of Styrofoam.
31. **Takeout and Retail Bags:** Grocery, shopping, and merchandise plastic bags.
32. **Stretch Wrap:** Polyethylene pallet wrap or stretch wrap.
33. **Other Clean Polyethylene Film:** Polyethylene film and bags, other than those identified above, which were not contaminated with food, liquid, or grit during use. Includes clean plastic sheeting, clean trash bags, mattress packaging, dry cleaner plastic bags, newspaper polyethylene film bags, and bubble wrap.
34. **Plastic Pouches:** Plastic pouches made of thicker, multi-layer flexible material. May have a flat bottom so that package would stand up on its own, but not always. Material is thicker than potato chip bags and frozen vegetable bags. Includes plastic coffee bags like Starbucks and Peets; Capri Sun pouches; baby food pouches – may have plastic screw top; soup pouches; salad dressing pouches; wine pouches; backpacking meals in pouches; soap refill pouches; laundry detergent pouches; and other similar items.
35. **Plastic Mailers:** Flexible plastic film mailers used for mailing. Examples include film mailers from e-commerce services.
36. **Waste Bags:** Any plastic bag that was originally sold as a trash can liner or to hold waste. Does not include bags originally provided for other purposes that are used for waste.
37. **Compostable Plastic Bags:** Film “plastic” bags made of materials such as corn starch or soy designed to compost (e.g., BioBag, EcoSafe).
38. **Other Film:** Film packaging not defined above, or: was contaminated with food, liquid, or grit during use; is woven together (e.g., grain bags); or that contains multiple layers of film or other materials that have been fused together (e.g., potato chip bags). This material type also includes contaminated plastic sheeting, photographic negatives, shower curtains, Ziploc bags, and any bags used to contain food or liquid (e.g., produce).
39. **Large Durable Plastic Products (>2 gallons):** Finished plastic products, greater than two gallons in size, made entirely of plastic such as large plastic toys, vinyl hose, plastic lawn furniture, plastic buckets, and foam mattresses. Includes fiberglass resin products and materials, and durable plastic pots. Includes large foam carpet padding and plastic pipes.
40. **Small Durable Plastic Products (<2 gallons, >2”):** Finished plastic products, less than two gallons and greater than two inches in size, made entirely of plastic, such as clothes hangers and small plastic toys.
41. **Plastic/Other Materials:** Items that are predominately plastic with other materials attached such as toothbrushes, disposable razors, pens, lighters, toys, and 3-ring binders. Includes lids and loose bottle caps smaller than 3 inches in diameter. Also includes toxic product containers, such as for motor oil or antifreeze.

Glass

42. **Clear Beverage Glass:** Bottles that are clear in color, including pop, liquor, wine, juice, beer, and vinegar bottles.
43. **Green Beverage Glass:** Bottles that are green in color, including green pop, liquor, wine, beer, and lemon juice bottles.
44. **Brown Beverage Glass:** Bottles that are brown in color, including brown pop, beer, liquor, juice, and extract bottles.
45. **Container Glass:** Glass containers of all colors, holding solid materials such as mayonnaise, non-dairy creamer, and facial cream.
46. **Other Glass:** Mirrors, glassware, blue glass bottles, glass windowpanes, doors and tabletops, safety glass, architectural glass, and windshield and side window auto glass. Excludes LED, fluorescent, and compact fluorescent (CFL) light bulbs.
47. **Mixed Cullet:** Glass bottles and containers that are broken into pieces less than one square inch and of multiple colors.

Metal

48. **Aluminum Cans:** Aluminum beverage cans (UBC) and bi-metal cans made mostly of aluminum. Includes can lids partially attached to the can or pushed into the can.
49. **Aluminum Foil/Containers:** Aluminum food containers, trays, and foil.
50. **Other Aluminum:** Aluminum products and scrap such as window frames, cookware.
51. **Other Nonferrous:** Metals not derived from iron, to which a magnet will not adhere, and which are not significantly contaminated with other metals or materials.
52. **Steel Food Cans:** Steel food containers, including bi-metal cans made mostly of steel. Includes can lids partially attached to the can or pushed into the can.
53. **Empty Aerosol Cans:** Empty, mixed material/metal aerosol cans. Aerosols that still contain product are sorted according to that material—for instance, solvent-based paint.
54. **Other Ferrous:** Ferrous and alloyed ferrous scrap metals to which a magnet adheres, and which are not significantly contaminated with other metals or materials.
55. **Oil Filters:** Metal oil filters used in cars and other automobiles.
56. **Mixed Metals/Materials:** Items that are predominately metal with other materials attached such as motors, insulated wire, and finished products containing a mixture of metals, or metals and other materials. Includes loose can lids. White goods are banned from Seattle's disposal. However, segments of large appliances are occasionally found; they are included in this material type.

Compostable Organics

57. **Leaves and Grass:** Non-woody plant materials from a yard or garden area, including grass clippings, leaves, weeds, and garden wastes.
58. **Prunings:** Cut prunings, 6" or less in diameter, from bushes, shrubs, and trees.
59. **Edible Food Scraps – Packaged:** The components of food that, in a particular food supply chain, are intended to be consumed by humans, and is enclosed in plastic, paper, glass, or other packaging. Includes food that is enclosed in any type of packaging, regardless of whether it is in its original packaging. Excludes fats, oils, and grease.
60. **Edible Food Scraps – Non-Packaged:** The components of food that, in a particular food supply chain, are intended to be consumed by humans, and is not enclosed in plastic, paper, glass, or other packaging. Excludes fats, oils, and grease.

- 61. **Non-Edible Food Scraps:** The non-edible portions of food material. Examples include fruit peels, vegetable peelings and potato skins, pits, cores, juiced oranges, eggshells, bones, gristle and meat trimmings, fish skins, and seafood shells. Excludes fats, oils, and grease.
- 62. **Fats, Oils, and Grease:** Fatty by-products of food preparation. Includes cooking oil, butter, lard, and gravy. Can be in liquid or solid form.
- 63. **Other Compostable Organics:** Wooden chopsticks, popsicle sticks, toothpicks, and coffee stirrers.

Other Organics

- 64. **Textiles:** Rag stock fabric materials including natural and synthetic textiles such as cotton, wool, silk, woven nylon, rayon, and polyester.
- 65. **Mixed Textiles:** Non-rag stock grade textiles such as upholstered items, non-leather shoes and handbags, heavy linens, and draperies.
- 66. **Disposable Diapers:** Diapers made from a combination of fibers, synthetic, and/or natural, and made for the purpose of single use. This includes disposable baby diapers and adult protective undergarments.
- 67. **Animal By-Products:** Animal carcasses not resulting from food storage or preparation, animal wastes, and kitty litter.
- 68. **Rubber Products:** Finished products and scrap materials made of natural and synthetic rubber, such as bathmats, inner tubes, rubber hoses, rubber carpet padding, and foam rubber.
- 69. **Tires:** Vehicle tires of all types. Tubes are put into the rubber material type.

Furniture, Appliances, and Electronics

- 70. **Furniture:** Mixed-material furniture such as upholstered chairs. Furniture that is made purely of one material, such as plastic or metal, would be categorized according to that material (e.g., plastic products or other ferrous metal).
- 71. **Mattresses:** Mattresses and box springs.
- 72. **Small Appliances:** Small electric appliances such as toasters, microwave ovens, power tools, and curling irons.
- 73. **Fluorescent Tubes and Compact Fluorescent Lights (CFL):** Fluorescent light tubes and compact fluorescent lights, which are small, fluorescent bulbs similar in appearance to incandescent bulbs. These bulbs typically have a spiral or tubular design.
- 74. **LED Lighting:** Any light-emitting diode (LED) light bulb or lighting fixture. They usually are not coiled in appearance and have an integrated ballast in the base.
- 75. **Rechargeable Batteries:** Rechargeable batteries, such as those found in cordless power tools, cell phones, laptops, digital cameras, toothbrushes, and remote-control toys.
- 76. **Other Dry-Cell Batteries:** Dry-cell batteries of various sizes and types as commonly used in households. Includes button cell batteries, such as those found in watches and hearing aids.
- 77. **Wet-Cell Batteries:** Wet-cell batteries of various sizes and types as commonly used in automobiles.
- 78. **Electronics accepted through E-Cycle WA:** Televisions, computers, laptops, monitors, tablets, e-readers, and portable DVD players, which are accepted through E-Cycle WA.
- 79. **Electronics not accepted through E-Cycle WA:** Cell phones; audio/visual equipment including stereos, radios, tape decks, non-portable DVD players, VCRs, camcorders, and digital cameras; and computer peripherals such as processors, mice and mouse pads, keyboards, disk drives, and printers.

Construction Debris

- 80. **Clean Dimension Lumber:** Milled lumber commonly used in construction for framing and related uses, including 2 x 4's, 2 x 6's, that is clean (only including trace amounts of paint, nails, and other contaminants). Includes 2 x 4's with painted ends.

81. **Clean Engineered Wood:** Sheets of plywood, strandboard, particleboard, and other wood created using glue that are clean (only including trace amounts of paint, nails, and other contaminants).
82. **Pallets and Crates:** Includes untreated wood pallets, whole and broken, untreated crates, pieces of crates, and other packaging lumber/panelboard.
83. **Other Untreated Wood:** Compostable prunings or stumps 6" or greater in diameter.
84. **New Painted Wood:** Lumber and wood products from new construction that have been painted to render them difficult to compost.
85. **Old Painted Wood:** Painted wood from demolition jobs. May be flaky and oxidized. Includes lead-based painted wood
86. **Creosote-Treated Wood:** Lumber and wood products that have been treated with creosote to render them difficult to compost (with generally 50% or more of the surface area treated).
87. **Other Treated Wood:** Lumber and wood products that have been treated (other than painted or treated with creosote) to render them difficult to compost. This includes chemically treated lumber.
88. **Contaminated Wood:** Predominantly wood and lumber products that are mixed with other materials in such a way that they cannot easily be separated. This includes wood with metal, gypsum, concrete, or other contaminants that would not compost easily.
89. **New Gypsum Scrap:** Calcium sulfate dehydrate sandwiched between heavy layers of Kraft-type paper. Also known as drywall. This material type includes new drywall that has not been painted or treated in other ways. Excludes GP DensGlass (and other brands) of exterior or roof paneling which is gypsum sandwiched between a fiberglass-reinforced coating.
90. **Demo Gypsum Scrap:** Used or demolition gypsum wallboard scrap that has been painted or treated.
91. **Carpet:** General material type of flooring applications and non-rag stock textiles consisting of various natural or synthetic fibers bonded to some type of backing material.
92. **Felt Carpet Pad:** Fiber carpet pads made of jute, hair, or synthetic materials, such as recycled carpet fibers. This material may be coated with latex or other resin.
93. **Fiberglass Insulation:** Fiberglass building and mechanical insulation, batt or rigid.
94. **Rock, Concrete, Brick, And Other Aggregates:** *Concrete*, asphalt paving, rock gravel larger than 2" in diameter, and aggregates such as bricks, masonry tile, and clay roofing tiles. Also includes concrete and asphalt paving containing steel mesh and/or reinforcement bars, or "rebar."
95. **Asphaltic Roofing:** Includes asphalt shingles, which is roofing material composed of fiberglass or organic felts saturated with asphalt and covered with inert aggregates as well as attached roofing tar and tar paper. Commonly known as three-tab roofing shingles but including older designs as well. Also includes other asphaltic roofing material made with layers of felt, asphalt, aggregates, and attached roofing tar and tar paper normally used on flat/low pitched roofs usually on commercial buildings. Includes tar and gravel or "built-up roof membranes" as well as other asphaltic roofing membranes.
96. **Ceramics:** Finished ceramic or porcelain products such as toilets, sinks, and some dishware.
97. **Liquid Latex Paints:** Water-based paints and similar products in liquid form. Excludes empty paint containers and paint that is outweighed by that of the container.
98. **Other Construction Debris:** Construction debris (other than wood) that cannot be classified elsewhere and mixed fine building material scraps. For example, floor sweepings from construction activities containing sawdust, nails, wire, etc. Includes GP DensGlass (and other brands) of exterior or roof paneling which is gypsum sandwiched between a fiberglass-reinforced coating. This material type also includes cement fiber board, single-ply roofing membranes, ceiling tiles, and dried latex paints.

Potentially Harmful Wastes

99. **Oil-Based Paints Accepted by PaintCare:** Oil-based house paint and primers, stains, deck and concrete sealers, and clear finishes (e.g., shellac and varnish) that are covered under Washington's PaintCare architectural paint recycling program. These architectural paint products must be in containers that are no larger than 5 gallons in size. Excludes paint thinners, solvents, aerosol paints, auto and marine paints, art and craft paints, caulking compounds, epoxies, glues, adhesives, paint additives, colorants, tints, resins, wood preservatives, and deck cleaners.
100. **Medical Wastes:** Materials typically discarded in a health care setting such as I.V. tubing and patient drapes, specimen containers, and Petri dishes. Medical wastes that could be considered a biohazard are weighed, but not further sorted.
101. **Non-Caustic Cleaners/Chemicals:** Non-caustic cleaners and other household chemicals that are non-corrosive. Excludes drain cleaners and alkaline cleaning agents.
102. **Pharmaceuticals and Medications:** Both prescription and over-the-counter medications in all forms, both brand name and generic, including pills, liquid medications, creams, and ointments that residents use in their homes or other residential settings. Includes legally prescribed controlled substances such as OxyContin, Vicodin, Valium, Ritalin, and stimulants. Does not include containers for these items, except for tubes for creams and ointments and other containers that cannot be easily separated from the product they contain. Excludes vitamins, herbal-based remedies, and homeopathic drugs, products, or remedies.
103. **Vitamins and Supplements:** Vitamins and supplements in all forms, including pills, liquid supplements, creams, and ointments. Does not include containers for these items, except for tubes for creams and ointments and other containers that cannot be easily separated from the product they contain.
104. **Personal Care/Cosmetics:** Hygiene and grooming products, including bar soap, shower gel, shampoo, conditioner, hairspray, deodorant, body powder, lotions, nail polish and remover, makeup, etc. Does not include containers for these items, except when containers cannot be easily separated from the product they contain.
105. **Other Potentially Harmful Wastes:** Other chemicals or potentially harmful wastes that do not fit into the above categories, including unidentifiable materials. Examples include pesticides and herbicides, gasoline, kerosene, motor oil and diesel oil, asbestos, and explosives. Includes solvent-based paints, varnishes, and similar products not covered under Washington's PaintCare recycling program. Includes solvent-based adhesives and glues, including epoxy, rubber cement, two-part glues and sealers, and auto body fillers. Includes water-based glues, caulking compounds, grouts, and Spackle. Includes caustic cleaners whose primary purpose is to clean surfaces, unclog drains, or perform other actions.

Fines and Miscellaneous Materials

106. **Personal Protective Equipment (PPE):** Equipment worn to minimize exposure to a variety of hazards. In this definition, PPE refers to protective equipment worn by residents to minimize exposure to and the transmission of viruses, rather than equipment used in a medical or workplace setting. This includes face protection, such as cloth face coverings, face masks, and face shields. This also includes hand protection, such as nitrile or latex gloves, and bulk quantities of disinfectant and antibacterial wipes. This material type excludes medical supplies, such as tubing, drapes, pipettes, saline drip bags, bandages, scrubs, and gowns. PPE that is mixed with medical waste was not be separated or further sorted. Only bags of PPE or loose PPE are sorted into this material type.
107. **Sand/Soil/Dirt:** Sand, soil, dirt, and gravel smaller than 2" in diameter.
108. **Non-distinct Fines:** Mixed MSW fines smaller than 2" in diameter. Excludes mixed glass cullet.

109. **Miscellaneous Organics:** Combustible materials including wax; cigarette butts; scraps of leather and leather products including shoes and belts; feminine hygiene products; briquettes; fireplace, burn barrel and fire pit ash; and other organic materials not classified elsewhere, such as cork, organic rope, pet food, and hair.
110. **Miscellaneous Inorganics:** Other inorganic, non-combustible materials not classified elsewhere, such as dryer sheets/Swifter sheets.

Changes and Updates to the Material List

The material types in the 2020 study are based on those used in Seattle’s 2014 residential garbage and commercial garbage studies. The material list categories for 2020 were updated and divided into 110 material types to provide more detail about specific materials in the waste stream.

The 2020 material list updates include:

- Alignment with other regional and national studies – Cascadia cross walked material type lists against several studies so that SPU can more easily compare with other state and local jurisdiction studies, such as the King County, Washington State, Metro (OR), and New York City.
- Added more distinctions between products and packaging – For example, materials such as cereal and cracker boxes are classified as paper packaging versus writing paper to better measure the impacts of SPU policies and programs.
- Create one primary material type list to use for both the disposal and recycling studies – Previously, these studies had different material type lists making comparisons and some calculations, such as capture rates more challenging. The 2015 studies had thirty-three recycling material types and 115 garbage material types.
- Splitting the material types in the Plastics material type into packaging and non-packaging components by plastic resin type. Expanded number of plastic components – to distinguish between a variety of product and packaging items, such as various kinds of plastic films, non-bottle packaging, and food service ware.
- Breaking down the plastic film material types into additional components, including plastic pouches, mailers, and compostable bags. We separated takeout and retail bags from the other clean polyethylene film component.
- Dividing the plastic food-service packaging material types into four material type groups based on the type of food-service packaging and whether the material is compostable: compostable single-use food service plastic utensils, compostable single-use food service plastic packaging, compostable single-use food service plastic utensils, non-compostable single-use food service plastic utensils, and non-compostable single-use food service plastic packaging.
- Splitting the food material type into three types: edible food – packaged, edible food – non-packaged, and non-edible food.
- Consolidated material types with little or no material sorted in prior studies – to produce more reliable composition estimates and boost sorting efficiencies, such as Batteries (moved to Electronics) and Cleaners and Pesticides/Herbicides (moved to Other Potentially Harmful Wastes).
- Rolling up material types that were not prevalent in the previous Seattle Waste Composition Study into larger types. Many of these material types were in the Furniture, Appliances, and Electronics, Construction Debris, or Potentially Harmful Wastes categories.
- **Glass Cullet:**
 - Glass Cullet was initially consolidated into the Non-distinct Fines material type for the 2020 studies. In October 2020 after reviewing February and July 2020 recycling sample data, SPU

observed an increase in non-recyclable materials. SPU and Cascadia proposed that having the Mixed Cullet combined with Non-distinct Fines was potentially a driver of that increase. SPU and Cascadia agreed to separate the Mixed Cullet from Non-distinct Fines in the November 2020 and future sampling events to determine if the Mixed Cullet is, in fact noticeably contributing to this increase. The 2015 and 2020 material type definitions are listed below for reference.

- 2015 recycling study material types and definitions:
 - Mixed Cullet: Glass bottles and containers that are broken into pieces less than one square inch and of multiple colors.
 - Other Non-Recyclables: Any item that does not meet the requirements for Seattle’s recycling program in either compartment, such as organic wastes, construction debris, soil, and hazardous wastes.
- January-September 2020 categories and definitions:
 - Non-distinct Fines: Mixed MSW fines smaller than 2” in diameter (includes glass cullet).
 - Updated 2020 material types and definitions:
 - Mixed Cullet: Glass bottles and containers that are broken into pieces less than one square inch and of multiple colors.
 - Non-distinct Fines: Mixed MSW fines smaller than 2” in diameter. Excludes mixed glass cullet.
- **Mixed/Other Paper:** To ensure it is explicit that the Mixed/Other Paper material type contains only contaminant materials whereas the Mixed Paper Packaging and Mixed Paper Products contain only recyclable materials the following updates were made to the material type labels.
 - Mixed/Other Paper (non-conforming): Predominantly paper with other materials attached (e.g., orange juice cans), and other non-recyclable papers such as carbon copy paper, hardcover books, and photographs. Includes shredded paper that is less than 8 ½ inches long and ¼ inch wide (confetti and crosscut shreds).
 - Paper Packaging (recyclable): High-grade paper and mixed low-grade paper packaging. Includes cereal and cracker boxes, egg cartons, frozen/refrigerator packaging, and bleached Kraft. Excludes juice concentrate cans.
 - Paper Products (recyclable): High-grade paper and mixed low-grade paper products. Includes white and lightly colored bond, rag, or stationary grade paper, including white or lightly colored sulfite/sulfate bond, copy papers, carbonless copy paper, notebook paper, envelopes, mailing tubes, continuous-feed sulfite/sulfate computer printouts and forms, junk mail, magazines, colored papers, ground wood computer printouts, paperback books, telephone directories, and spiral notebooks. Excludes carbon copy paper.
- **Other Aluminum:** To ensure it is explicit that the Other Aluminum material type contains only recyclable materials, the following update was made to the material list. Please note that when comparing to the 2015 study, these items were sorted into the Non-conforming Metal component, which was categorized as a contaminant, or non-conforming for that study. Cascadia created a new material type and has clarified its recyclability in an updated label as follows: Other Aluminum (recyclable): Aluminum products and scrap such as window frames, cookware.

APPENDIX E: RECOVERABILITY CLASSIFICATION

Each recoverability class in the Table 13 is color-coded to match the figures presented in the following pages. The full definition of each material type is in Error! Reference source not found..

Table 13: Assignment of Material Types to Recoverability Class

| Recoverability Class | Material Class | Material Type |
|----------------------|----------------|--------------------------------------------|
| Curbside Recyclable | PAPER | Newspaper |
| Curbside Recyclable | PAPER | Plain OCC or Kraft Paper |
| Curbside Recyclable | PAPER | Grocery or Shopping Bags |
| Curbside Recyclable | PAPER | Paper Packaging |
| Curbside Recyclable | PAPER | Paper Products |
| Curbside Recyclable | PAPER | Aseptic Containers |
| Curbside Recyclable | PAPER | Gable Top Containers |
| Curbside Recyclable | PAPER | Other Polycoated Containers |
| Compostable | PAPER | Compostable or Soiled Paper Products |
| Compostable | PAPER | Compostable Food Service Paper Packaging |
| Curbside Recyclable | PAPER | Non-Comp Food Service Paper Packaging |
| Compostable | PAPER | Waxed OCC or Kraft Paper |
| Compostable | PAPER | Shredded Paper |
| Non-recoverable | PAPER | Mixed or Other Paper |
| Curbside Recyclable | PLASTIC | PET Bottles |
| Curbside Recyclable | PLASTIC | HDPE Natural Bottles |
| Curbside Recyclable | PLASTIC | HDPE Colored Bottles |
| Curbside Recyclable | PLASTIC | PP Bottles |
| Curbside Recyclable | PLASTIC | Other Plastic Bottles |
| Curbside Recyclable | PLASTIC | PET Non-Bottle Packaging |
| Curbside Recyclable | PLASTIC | HDPE Non-Bottle Packaging |
| Curbside Recyclable | PLASTIC | PP Non-Bottle Packaging |
| Curbside Recyclable | PLASTIC | Other Non-Bottle Plastic Packaging |
| Compostable | PLASTIC | Compostable Food Service Plastic Utensils |
| Compostable | PLASTIC | Compostable Food Service Plastic Packaging |
| Non-recoverable | PLASTIC | Non-Comp Food Service Plastic Utensils |
| Curbside Recyclable | PLASTIC | Non-Comp Food Service Plastic Packaging |
| Other Recoverable | PLASTIC | Takeout and Retail Plastic Bags |
| Other Recoverable | PLASTIC | Other Clean PE Film |
| Other Recoverable | PLASTIC | Stretch Wrap |
| Non-recoverable | PLASTIC | Other Plastic Film |
| Non-recoverable | PLASTIC | Mailers |
| Non-recoverable | PLASTIC | Pouches |
| Compostable | PLASTIC | Compostable Plastic Bags |

| | | |
|---------------------|---------------------------|-----------------------------------|
| Non-recoverable | PLASTIC | Plastic Garbage Bags |
| Non-recoverable | PLASTIC | EPS Food-grade |
| Other Recoverable | PLASTIC | Rigid Polystyrene Foam Insulation |
| Other Recoverable | PLASTIC | EPS Non-food Grade |
| Other Recoverable | PLASTIC | Large Durable Plastic Products |
| Curbside Recyclable | PLASTIC | Small Durable Plastic Products |
| Non-recoverable | PLASTIC | Plastic or Other Materials |
| Curbside Recyclable | GLASS | Clear Beverage Glass Bottles |
| Curbside Recyclable | GLASS | Green Beverage Glass Bottles |
| Curbside Recyclable | GLASS | Brown Beverage Glass Bottles |
| Curbside Recyclable | GLASS | Container Glass |
| Curbside Recyclable | GLASS | Mixed Cullet |
| Non-recoverable | GLASS | Other Glass |
| Curbside Recyclable | METAL | Aluminum Cans |
| Curbside Recyclable | METAL | Aluminum Foil or Containers |
| Non-recoverable | METAL | Other Nonferrous Metal |
| Other Recoverable | METAL | Other Aluminum |
| Curbside Recyclable | METAL | Empty Aerosol Cans |
| Curbside Recyclable | METAL | Steel Food Cans |
| Curbside Recyclable | METAL | Other Ferrous Metal |
| Non-recoverable | METAL | Mixed Metals or Materials |
| Non-recoverable | METAL | Metal Oil Filters |
| Compostable | COMPOSTABLE ORGANICS | Leaves and Grass |
| Compostable | COMPOSTABLE ORGANICS | Prunings |
| Other Recoverable | COMPOSTABLE ORGANICS | Fats, Oils, and Grease |
| Compostable | COMPOSTABLE ORGANICS | Edible Food Scraps - Packaged |
| Compostable | COMPOSTABLE ORGANICS | Edible Food Scraps - Non-Packaged |
| Compostable | COMPOSTABLE ORGANICS | Non-Edible Food Scraps |
| Compostable | COMPOSTABLE ORGANICS | Other Compostable Organics |
| Other Recoverable | OTHER ORGANICS | Textiles |
| Other Recoverable | OTHER ORGANICS | Mixed Textiles |
| Non-recoverable | OTHER ORGANICS | Disposable Diapers |
| Non-recoverable | OTHER ORGANICS | Animal By-products |
| Non-recoverable | OTHER ORGANICS | Rubber Products |
| Other Recoverable | OTHER ORGANICS | Tires |
| Other Recoverable | FURNITURE AND ELECTRONICS | Furniture |
| Other Recoverable | FURNITURE AND ELECTRONICS | Mattresses |
| Other Recoverable | FURNITURE AND ELECTRONICS | Small Appliances |
| Other Recoverable | FURNITURE AND ELECTRONICS | Fluorescent Tubes and CFLs |
| Other Recoverable | FURNITURE AND ELECTRONICS | LED Lighting |
| Other Recoverable | FURNITURE AND ELECTRONICS | Rechargeable Batteries |

| | | |
|-------------------|----------------------------|-----------------------------------|
| Other Recoverable | FURNITURE AND ELECTRONICS | Other Dry-cell Batteries |
| Other Recoverable | FURNITURE AND ELECTRONICS | Wet-cell Batteries |
| Other Recoverable | FURNITURE AND ELECTRONICS | E-Cycle WA Electronics |
| Other Recoverable | FURNITURE AND ELECTRONICS | Non-E-Cycle WA Electronics |
| Other Recoverable | C&D | Clean Dimension Lumber |
| Other Recoverable | C&D | Clean Engineered Wood |
| Other Recoverable | C&D | Other Untreated Wood |
| Other Recoverable | C&D | Crates or Boxes or Pallets |
| Non-recoverable | C&D | New Painted Wood |
| Non-recoverable | C&D | Old Painted Wood |
| Non-recoverable | C&D | Creosote-treated Wood |
| Non-recoverable | C&D | Other Treated Wood |
| Non-recoverable | C&D | Contaminated Wood |
| Other Recoverable | C&D | New Gypsum Scrap |
| Other Recoverable | C&D | Demo Gypsum Scrap |
| Other Recoverable | C&D | Carpet |
| Other Recoverable | C&D | Felt Carpet Pad |
| Non-recoverable | C&D | Fiberglass Insulation |
| Other Recoverable | C&D | Rock or Concrete or Brick |
| Non-recoverable | C&D | Ceramics |
| Other Recoverable | C&D | Asphaltic Roofing |
| Non-recoverable | C&D | Other Construction Debris |
| Other Recoverable | C&D | Liquid Latex Paints |
| Other Recoverable | POTENTIALLY HARMFUL WASTES | Oil-based Paints |
| Non-recoverable | POTENTIALLY HARMFUL WASTES | Other Potentially Harmful Wastes |
| Non-recoverable | POTENTIALLY HARMFUL WASTES | Medical Waste |
| Non-recoverable | POTENTIALLY HARMFUL WASTES | Non-Caustic Cleaners or Chemicals |
| Other Recoverable | POTENTIALLY HARMFUL WASTES | Pharmaceuticals and Medications |
| Non-recoverable | POTENTIALLY HARMFUL WASTES | Vitamins and Supplements |
| Non-recoverable | POTENTIALLY HARMFUL WASTES | Personal Care or Cosmetics |
| Non-recoverable | FINES AND MISC | Sand, Soil or Dirt |
| Non-recoverable | FINES AND MISC | Non-distinct Fines |
| Non-recoverable | FINES AND MISC | Misc. Organics |
| Non-recoverable | FINES AND MISC | Misc. Inorganics |
| Non-recoverable | FINES AND MISC | PPE |

APPENDIX F: CONTAMINANT CLASSIFICATION

Table 14 shows the classification of each material type into contaminant groups (non-contaminant materials have an empty grey cell against them). Error! Reference source not found. includes the full definition of each material type.

Table 14: Assignment of Material Types to Contaminant Class

| Index | Material Type | Contaminant Type |
|-------|--------------------------------------|------------------------|
| 1 | Newspaper | |
| 2 | Plain OCC or Kraft Paper | |
| 3 | Grocery or Shopping Bags | |
| 4 | Paper Packaging | |
| 5 | Paper Products | |
| 6 | Compostable or Soiled Paper Products | Non-Conforming Paper |
| 7 | Compostable Food Service Packaging | Non-Conforming Paper |
| 8 | Non-Comp Food Service Packaging | |
| 9 | Waxed OCC or Kraft Paper | Non-Conforming Paper |
| 10 | Shredded Paper | Non-Conforming Paper |
| 11 | Mixed or Other Paper | Non-Conforming Paper |
| 12 | PET Bottles | |
| 13 | HDPE Natural Bottles | |
| 14 | HDPE Colored Bottles | |
| 15 | PP Bottles | |
| 16 | Other Bottles | |
| 17 | PET Non-Bottle Packaging | |
| 18 | HDPE Non-Bottle Packaging | |
| 19 | PP Non-Bottle Packaging | |
| 20 | Other Non-Bottle Packaging | |
| 21 | Compostable Food Service Utensils | Non-Conforming Plastic |
| 22 | Compostable Food Service Packaging | Non-Conforming Plastic |
| 23 | Non-Comp Food Service Utensils | Non-Conforming Plastic |
| 24 | Non-Comp Food Service Packaging | |
| 25 | Takeout and Retail Bags | Non-Conforming Plastic |
| 26 | Other Clean PE Film | Non-Conforming Plastic |
| 27 | Stretch Wrap | Non-Conforming Plastic |
| 28 | Other Film | Non-Conforming Plastic |
| 29 | Mailers | Non-Conforming Plastic |
| 30 | Pouches | Non-Conforming Plastic |
| 31 | Compostable Bags | Non-Conforming Plastic |
| 32 | Waste Bags | Non-Conforming Plastic |
| 33 | EPS Food-grade | Non-Conforming Plastic |

| | | |
|----|--------------------------------------------------|------------------------|
| 34 | Rigid Polystyrene Foam Insulation | Non-Conforming Plastic |
| 35 | EPS Non-food Grade | Non-Conforming Plastic |
| 36 | Large Durable Plastic Products (>2 gallons) | Non-Conforming Plastic |
| 37 | Small Durable Plastic Products (<2 gallons, >2") | |
| 38 | Plastic or Other Materials | Non-Conforming Plastic |
| 39 | Clear Beverage Bottles | |
| 40 | Green Beverage Bottles | |
| 41 | Brown Beverage Bottles | |
| 42 | Container Glass | |
| 43 | Other Glass | Non-Conforming Glass |
| 44 | Aluminum Cans | |
| 45 | Aluminum Foil or Containers | |
| 46 | Other Nonferrous | Non-Conforming Metal |
| 47 | Other Aluminum | Non-Conforming Metal |
| 48 | Empty Aerosol Cans | |
| 49 | Steel Food Cans | |
| 50 | Other Ferrous | |
| 51 | Mixed Metals or Materials | Non-Conforming Metal |
| 52 | Metal Oil Filters | Non-Conforming Metal |
| 53 | Leaves and Grass | Food Green Waste Wood |
| 54 | Prunings | Food Green Waste Wood |
| 55 | Fats, Oils, and Grease | Food Green Waste Wood |
| 56 | Edible Food Scraps - Packaged | Food Green Waste Wood |
| 57 | Edible Food Scraps - Non-Packaged | Food Green Waste Wood |
| 58 | Non-Edible Food Scraps | Food Green Waste Wood |
| 59 | Textiles | Textiles |
| 60 | Mixed Textiles | Textiles |
| 61 | Disposable Diapers | Other Non-Recyclables |
| 62 | Animal By-products | Other Non-Recyclables |
| 63 | Rubber Products | Other Non-Recyclables |
| 64 | Tires | Other Non-Recyclables |
| 65 | Furniture | Other Non-Recyclables |
| 66 | Mattresses | Other Non-Recyclables |
| 67 | Small Appliances | Other Non-Recyclables |
| 68 | Fluorescent Tubes and CFLs | Other Non-Recyclables |
| 69 | LED Lighting | Other Non-Recyclables |
| 70 | Rechargeable Batteries | Other Non-Recyclables |
| 71 | Other Dry-cell Batteries | Other Non-Recyclables |
| 72 | Wet-cell Batteries | Other Non-Recyclables |
| 73 | E-Cycle WA Electronics | Other Non-Recyclables |
| 74 | Non-E-Cycle WA Electronics | Other Non-Recyclables |

| | | |
|-----|-----------------------------------|-----------------------|
| 75 | Clean Dimension Lumber | Food Green Waste Wood |
| 76 | Clean Engineered Wood | Food Green Waste Wood |
| 77 | Other Untreated Wood | Food Green Waste Wood |
| 78 | Crates or Boxes or Pallets | Food Green Waste Wood |
| 79 | New Painted Wood | Food Green Waste Wood |
| 80 | Old Painted Wood | Food Green Waste Wood |
| 81 | Creosote-treated Wood | Food Green Waste Wood |
| 82 | Other Treated Wood | Food Green Waste Wood |
| 83 | Contaminated Wood | Food Green Waste Wood |
| 84 | New Gypsum Scrap | Other Non-Recyclables |
| 85 | Demo Gypsum Scrap | Other Non-Recyclables |
| 86 | Carpet | Other Non-Recyclables |
| 87 | Felt Carpet Pad | Other Non-Recyclables |
| 88 | Fiberglass Insulation | Other Non-Recyclables |
| 89 | Rock or Concrete or Brick | Other Non-Recyclables |
| 90 | Ceramics | Other Non-Recyclables |
| 91 | Asphaltic Roofing | Other Non-Recyclables |
| 92 | Other Construction Debris | Other Non-Recyclables |
| 93 | Liquid Latex Paints | Other Non-Recyclables |
| 94 | Oil-based Paints | Other Non-Recyclables |
| 95 | Other Potentially Harmful Wastes | Other Non-Recyclables |
| 96 | Medical Waste | Other Non-Recyclables |
| 97 | Non-Caustic Cleaners or Chemicals | Other Non-Recyclables |
| 98 | Pharmaceuticals and Medications | Other Non-Recyclables |
| 99 | Vitamins and Supplements | Other Non-Recyclables |
| 100 | Personal Care or Cosmetics | Other Non-Recyclables |
| 101 | Sand, Soil or Dirt | Other Non-Recyclables |
| 102 | Non-distinct Fines | Other Non-Recyclables |
| 103 | Misc. Organics | Other Non-Recyclables |
| 104 | Misc. Inorganics | Other Non-Recyclables |
| 105 | Other Compostable Organics | Food Green Waste Wood |
| 106 | Aseptic Containers | |
| 107 | Gable Top Containers | |
| 108 | Other Polycoated Containers | |
| 109 | PPE | Other Non-Recyclables |
| 110 | Mixed Cullet | |

APPENDIX G: UNIFORM CLASSIFICATION

For trend analysis (Section 0), Cascadia adjusted the material types for each season to match a uniform material list. Cascadia grouped the 2020 materials into the following classes (Table 15):

Table 15: Uniform Material Classes

| Uniform Classes - Garbage | Uniform Classes - Recycling |
|---------------------------|-----------------------------|
| Paper | Paper |
| Plastic | Plastic |
| Glass | Glass |
| Metal | Metal |
| Organics | Non-Recyclables |
| Hazardous | |
| CDL Wastes | |
| Other Materials | |

Table 16 shows categorization of 2020 material types in detail.

Table 16: Material Classification

| Material Type | Garbage Classes | Recycling Classes |
|--------------------------------------|-----------------|-------------------|
| Newspaper | PAPER | PAPER |
| Plain OCC or Kraft Paper | PAPER | PAPER |
| Grocery or Shopping Bags | PAPER | PAPER |
| Paper Packaging | PAPER | PAPER |
| Paper Products | PAPER | PAPER |
| Aseptic Containers | PAPER | NON-RECYCLABLES |
| Gable Top Containers | PAPER | NON-RECYCLABLES |
| Other Polycoated Containers | PAPER | NON-RECYCLABLES |
| Compostable or Soiled Paper Products | PAPER | NON-RECYCLABLES |
| Compostable Food Service Packaging | PAPER | NON-RECYCLABLES |
| Non-Comp Food Service Packaging | PAPER | NON-RECYCLABLES |
| Waxed OCC or Kraft Paper | PAPER | NON-RECYCLABLES |
| Shredded Paper | PAPER | NON-RECYCLABLES |
| Mixed or Other Paper | PAPER | NON-RECYCLABLES |
| PET Bottles | PLASTIC | PLASTIC |
| HDPE Natural Bottles | PLASTIC | PLASTIC |
| HDPE Colored Bottles | PLASTIC | PLASTIC |
| PP Bottles | PLASTIC | NON-RECYCLABLES |
| Other Bottles | PLASTIC | NON-RECYCLABLES |
| PET Non-Bottle Packaging | PLASTIC | NON-RECYCLABLES |
| HDPE Non-Bottle Packaging | PLASTIC | NON-RECYCLABLES |

| | | |
|-----------------------------------------------------|----------|-----------------|
| PP Non-Bottle Packaging | PLASTIC | NON-RECYCLABLES |
| Other Non-Bottle Packaging | PLASTIC | NON-RECYCLABLES |
| Compostable Food Service Utensils | PLASTIC | NON-RECYCLABLES |
| Compostable Food Service Packaging | PAPER | NON-RECYCLABLES |
| Non-Comp Food Service Utensils | PLASTIC | NON-RECYCLABLES |
| Non-Comp Food Service Packaging | PAPER | NON-RECYCLABLES |
| Takeout and Retail Bags | PLASTIC | NON-RECYCLABLES |
| Other Clean PE Film | PLASTIC | NON-RECYCLABLES |
| Stretch Wrap | PLASTIC | NON-RECYCLABLES |
| Other Film | PLASTIC | NON-RECYCLABLES |
| Mailers | PLASTIC | NON-RECYCLABLES |
| Pouches | PLASTIC | NON-RECYCLABLES |
| Compostable Bags | PLASTIC | NON-RECYCLABLES |
| Garbage Bags | PLASTIC | NON-RECYCLABLES |
| EPS Food-grade | PLASTIC | NON-RECYCLABLES |
| Rigid Polystyrene Foam Insulation | PLASTIC | NON-RECYCLABLES |
| EPS Non-food Grade | PLASTIC | NON-RECYCLABLES |
| Large Durable Plastic Products (>2 gallons) | PLASTIC | NON-RECYCLABLES |
| "Small Durable Plastic Products (<2 gallons, >2'")" | PLASTIC | NON-RECYCLABLES |
| Plastic or Other Materials | PLASTIC | NON-RECYCLABLES |
| Clear Beverage Bottles | GLASS | GLASS |
| Green Beverage Bottles | GLASS | GLASS |
| Brown Beverage Bottles | GLASS | GLASS |
| Container Glass | GLASS | GLASS |
| Mixed Cullet | GLASS | GLASS |
| Other Glass | GLASS | NON-RECYCLABLES |
| Aluminum Cans | METAL | METAL |
| Aluminum Foil or Containers | METAL | NON-RECYCLABLES |
| Other Nonferrous | METAL | NON-RECYCLABLES |
| Other Aluminum | METAL | NON-RECYCLABLES |
| Empty Aerosol Cans | METAL | METAL |
| Steel Food Cans | METAL | METAL |
| Other Ferrous | METAL | METAL |
| Metal Oil Filters | METAL | NON-RECYCLABLES |
| Mixed Metals or Materials | METAL | NON-RECYCLABLES |
| Leaves and Grass | ORGANICS | NON-RECYCLABLES |
| Prunings | ORGANICS | NON-RECYCLABLES |
| "Fats, Oils, and Grease" | ORGANICS | NON-RECYCLABLES |
| Edible Food Scraps - Packaged | ORGANICS | NON-RECYCLABLES |
| Edible Food Scraps - Non-Packaged | ORGANICS | NON-RECYCLABLES |

| | | |
|----------------------------------|-----------------|-----------------|
| Non-Edible Food Scraps | ORGANICS | NON-RECYCLABLES |
| Other Compostable Organics | OTHER MATERIALS | NON-RECYCLABLES |
| Textiles | OTHER MATERIALS | NON-RECYCLABLES |
| Mixed Textiles | OTHER MATERIALS | NON-RECYCLABLES |
| Disposable Diapers | OTHER MATERIALS | NON-RECYCLABLES |
| Animal By-products | OTHER MATERIALS | NON-RECYCLABLES |
| Rubber Products | OTHER MATERIALS | NON-RECYCLABLES |
| Tires | OTHER MATERIALS | NON-RECYCLABLES |
| Furniture | OTHER MATERIALS | NON-RECYCLABLES |
| Mattresses | OTHER MATERIALS | NON-RECYCLABLES |
| Small Appliances | OTHER MATERIALS | NON-RECYCLABLES |
| Fluorescent Tubes and CFLs | GLASS | NON-RECYCLABLES |
| LED Lighting | OTHER MATERIALS | NON-RECYCLABLES |
| Rechargeable Batteries | HAZARDOUS | NON-RECYCLABLES |
| Other Dry-cell Batteries | HAZARDOUS | NON-RECYCLABLES |
| Wet-cell Batteries | HAZARDOUS | NON-RECYCLABLES |
| E-Cycle WA Electronics | OTHER MATERIALS | NON-RECYCLABLES |
| Non-E-Cycle WA Electronics | OTHER MATERIALS | NON-RECYCLABLES |
| Clean Dimension Lumber | CDL WASTES | NON-RECYCLABLES |
| Clean Engineered Wood | CDL WASTES | NON-RECYCLABLES |
| Crates or Boxes or Pallets | CDL WASTES | NON-RECYCLABLES |
| Other Untreated Wood | CDL WASTES | NON-RECYCLABLES |
| New Painted Wood | CDL WASTES | NON-RECYCLABLES |
| Old Painted Wood | CDL WASTES | NON-RECYCLABLES |
| Creosote-treated Wood | CDL WASTES | NON-RECYCLABLES |
| Other Treated Wood | CDL WASTES | NON-RECYCLABLES |
| Contaminated Wood | CDL WASTES | NON-RECYCLABLES |
| New Gypsum Scrap | CDL WASTES | NON-RECYCLABLES |
| Demo Gypsum Scrap | CDL WASTES | NON-RECYCLABLES |
| Carpet | OTHER MATERIALS | NON-RECYCLABLES |
| Felt Carpet Pad | OTHER MATERIALS | NON-RECYCLABLES |
| Fiberglass Insulation | CDL WASTES | NON-RECYCLABLES |
| Rock or Concrete or Brick | CDL WASTES | NON-RECYCLABLES |
| Ceramics | OTHER MATERIALS | NON-RECYCLABLES |
| Asphaltic Roofing | CDL WASTES | NON-RECYCLABLES |
| Other Construction Debris | CDL WASTES | NON-RECYCLABLES |
| Liquid Latex Paints | HAZARDOUS | NON-RECYCLABLES |
| Oil-based Paints | HAZARDOUS | NON-RECYCLABLES |
| Other Potentially Harmful Wastes | HAZARDOUS | NON-RECYCLABLES |
| Medical Waste | HAZARDOUS | NON-RECYCLABLES |

| | | |
|-----------------------------------|-----------------|-----------------|
| Non-Caustic Cleaners or Chemicals | HAZARDOUS | NON-RECYCLABLES |
| Pharmaceuticals and Medications | HAZARDOUS | NON-RECYCLABLES |
| Vitamins and Supplements | HAZARDOUS | NON-RECYCLABLES |
| Personal Care or Cosmetics | HAZARDOUS | NON-RECYCLABLES |
| Sand, Soil or Dirt | CDL WASTES | NON-RECYCLABLES |
| Non-distinct Fines | CDL WASTES | NON-RECYCLABLES |
| Misc. Organics | OTHER MATERIALS | NON-RECYCLABLES |
| Misc. Inorganics | OTHER MATERIALS | NON-RECYCLABLES |
| PPE | HAZARDOUS | NON-RECYCLABLES |

APPENDIX H: SAMPLING PROGRESS REPORTS

This section presents progress reports that Cascadia sent to the SPU project manager every other month throughout the project period. Each summary presents dates of sampling, the total number of samples sorted compared to the goal for that sampling event, and whether any samples were missed or replaced by a different zone or sector. Each section also includes a table detailing the number of samples that were sorted versus the number planned, by sector and zone.¹¹

Fieldwork Season 1 (Jan-Feb 2020)

| Sampling Events | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| Garbage | Recycling |
| Tuesday, January 28 - Friday, January 31, 2020 | N/A |
| Reason for difference between planned and actual sample counts, if any: | |
| The number of samples completed differs from the targets for single-family zones 1 and 2 and multifamily zones 1 and 2 by one sample due to the variation in which trucks arrived at the facility during the crew's working hours. | |

| Task 1: Residential Waste Study | | | | |
|---------------------------------|------|-----------|-----------|-------------------------|
| Generator | Zone | Planned | Actual | Difference from Planned |
| Single-family | 1 | 6 | 6 | 0 |
| Single-family | 2 | 6 | 6 | 0 |
| Single-family | 3 | 6 | 6 | 0 |
| Single-family | 4 | 6 | 6 | 0 |
| Multifamily | 1 | 6 | 6 | 0 |
| Multifamily | 2 | 6 | 6 | 0 |
| Multifamily | 3 | 6 | 6 | 0 |
| Multifamily | 4 | 6 | 6 | 0 |
| Total | | 48 | 48 | 0 |

Fieldwork Season 2 (March 2020)

| Sampling Events | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| Garbage | Recycling |
| Tuesday, March 17 - Wednesday, March 18, 2020 | N/A |
| Reason for difference between planned and actual sample counts, if any: | |
| The original dates planned for this sampling event were Tuesday, March 17 through Friday, March 20. Due to the growing spread of COVID-19, the transition to remote work for many businesses, and the closing of many non-essential businesses, Cascadia assessed and reviewed health and safety recommendations from local and state public health officials daily. To protect the health and safety of our team, Cascadia and SPU agreed to postpone this season's remaining fieldwork. | |

¹¹ For several months, the number of planned samples differs from planned samples in the study design, as the sampling plans were revised during the year to make up for variances from prior months' goals.

| Task 1: Residential Waste Study | | | | |
|---------------------------------|------|-----------|-----------|-------------------------|
| Generator | Zone | Planned | Actual | Difference from Planned |
| Single-family | 1 | 3 | 3 | 0 |
| Single-family | 2 | 3 | 3 | 0 |
| Single-family | 3 | 3 | 2 | -1 |
| Single-family | 4 | 3 | 3 | 0 |
| Multifamily | 1 | 3 | 2 | -1 |
| Multifamily | 2 | 3 | 3 | 0 |
| Multifamily | 3 | 3 | 4 | 1 |
| Multifamily | 4 | 3 | 2 | -1 |
| Total | | 24 | 22 | -2 |

Fieldwork Season 3 (July – August 2020)

| Sampling Events | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|
| Garbage | Recycling |
| Monday, August 3 - Friday, August 7, 2020 | Monday, July 27 - Friday, July 31, 2020 |
| Reason for difference between planned and actual sample counts, if any: | |
| There were unanticipated challenges for this season of sampling due to hauler capacity constraints from the summer season and the COVID-19 pandemic. Trucks for the selected routes arrived at the transfer station later in the day than anticipated, so the field crew adapted throughout the week to meet the sampling targets. | |

| Task 1: Residential Waste Study | | | | |
|---------------------------------|------|-----------|-----------|-------------------------|
| Generator | Zone | Planned | Actual | Difference from Planned |
| Single-family | 1 | 8 | 9 | 1 |
| Single-family | 2 | 7 | 9 | 2 |
| Single-family | 3 | 7 | 5 | -2 |
| Single-family | 4 | 8 | 7 | -1 |
| Multifamily | 1 | 7 | 7 | 0 |
| Multifamily | 2 | 8 | 8 | 0 |
| Multifamily | 3 | 8 | 8 | 0 |
| Multifamily | 4 | 7 | 7 | 0 |
| Total | | 60 | 60 | 0 |

| Task 2: Residential Recycling Study | | | | |
|-------------------------------------|------|-----------|-----------|-------------------------|
| Generator | Zone | Planned | Actual | Difference from Planned |
| Single-family | 1 | 13 | 12 | -1 |
| Single-family | 2 | 12 | 15 | 3 |
| Single-family | 3 | 12 | 13 | 1 |
| Single-family | 4 | 13 | 10 | -3 |
| Multifamily | 1 | 7 | 7 | 0 |
| Multifamily | 2 | 6 | 5 | -1 |
| Multifamily | 3 | 6 | 7 | 1 |
| Multifamily | 4 | 6 | 6 | 0 |
| Total | | 75 | 75 | 0 |

Fieldwork Season 4 (September 2020)

| Sampling Events | |
|-----------------------------------------------------------------------------|----------------------------------------------|
| Garbage | Recycling |
| Monday, Sept 21 - Thursday, September 24, 2020 | Monday, Sept 14 - Friday, September 18, 2020 |
| Reason for difference between planned and actual sample counts, if any: N/A | |

| Task 1: Residential Waste Study | | | | |
|---------------------------------|------|-----------|-----------|-------------------------|
| Generator | Zone | Planned | Actual | Difference from Planned |
| Single-family | 1 | 6 | 7 | 1 |
| Single-family | 2 | 6 | 7 | 1 |
| Single-family | 3 | 7 | 5 | -2 |
| Single-family | 4 | 6 | 6 | 0 |
| Multifamily | 1 | 6 | 6 | 0 |
| Multifamily | 2 | 6 | 6 | 0 |
| Multifamily | 3 | 6 | 6 | 0 |
| Multifamily | 4 | 6 | 7 | 1 |
| Total | | 49 | 50 | 1 |

| Task 2: Residential Recycling Study | | | | |
|-------------------------------------|------|-----------|-----------|-------------------------|
| Generator | Zone | Planned | Actual | Difference from Planned |
| Single-family | 1 | 13 | 13 | 0 |
| Single-family | 2 | 11 | 10 | -1 |
| Single-family | 3 | 12 | 13 | 1 |
| Single-family | 4 | 14 | 14 | 0 |
| Multifamily | 1 | 6 | 6 | 0 |
| Multifamily | 2 | 7 | 7 | 0 |
| Multifamily | 3 | 6 | 6 | 0 |
| Multifamily | 4 | 6 | 6 | 0 |
| Total | | 75 | 75 | 0 |

Fieldwork Season 5 (November 2020)

| Sampling Events | |
|-----------------------------------------------------------------------------|--------------------------------------------|
| Garbage | Recycling |
| Monday, Nov 9 - Thursday, November 12, 2020 | Monday, Nov 16 - Friday, November 20, 2020 |
| Reason for difference between planned and actual sample counts, if any: N/A | |

| Task 1: Residential Waste Study | | | | |
|---------------------------------|------|-----------|-----------|-------------------------|
| Generator | Zone | Planned | Actual | Difference from Planned |
| Single-family | 1 | 4 | 4 | 0 |
| Single-family | 2 | 4 | 4 | 0 |
| Single-family | 3 | 9 | 9 | 0 |
| Single-family | 4 | 7 | 7 | 0 |
| Multifamily | 1 | 7 | 7 | 0 |
| Multifamily | 2 | 6 | 6 | 0 |
| Multifamily | 3 | 6 | 6 | 0 |
| Multifamily | 4 | 5 | 5 | 0 |
| Total | | 48 | 48 | 0 |

| Task 2: Residential Recycling Study | | | | |
|-------------------------------------|------|-----------|-----------|-------------------------|
| Generator | Zone | Planned | Actual | Difference from Planned |
| Single-family | 1 | 12 | 12 | 0 |
| Single-family | 2 | 13 | 13 | 0 |
| Single-family | 3 | 12 | 12 | 0 |
| Single-family | 4 | 13 | 13 | 0 |
| Multifamily | 1 | 7 | 7 | 0 |
| Multifamily | 2 | 6 | 6 | 0 |
| Multifamily | 3 | 6 | 6 | 0 |
| Multifamily | 4 | 6 | 6 | 0 |
| Total | | 75 | 75 | 0 |

Fieldwork Season 6 (Jan-Feb 2021)

| Sampling Events | |
|-----------------------------------------------------------------------------|--------------------------------------------------|
| Garbage | Recycling |
| Monday, January 18 - Friday, January 22, 2021 | Monday, February 1 - Wednesday, February 3, 2021 |
| Reason for difference between planned and actual sample counts, if any: N/A | |

| Task 1: Residential Waste Study | | | | |
|---------------------------------|------|-----------|-----------|-------------------------|
| Generator | Zone | Planned | Actual | Difference from Planned |
| Single-family | 1 | 7 | 7 | 0 |
| Single-family | 2 | 7 | 7 | 0 |
| Single-family | 3 | 9 | 10 | 1 |
| Single-family | 4 | 7 | 6 | -1 |
| Multifamily | 1 | 8 | 8 | 0 |
| Multifamily | 2 | 7 | 7 | 0 |
| Multifamily | 3 | 6 | 5 | -1 |
| Multifamily | 4 | 9 | 10 | 1 |
| Total | | 60 | 60 | 0 |

| Task 2: Residential Recycling Study | | | | |
|-------------------------------------|------|-----------|-----------|-------------------------|
| Generator | Zone | Planned | Actual | Difference from Planned |
| Single-family | 1 | 8 | 8 | 0 |
| Single-family | 2 | 7 | 7 | 0 |
| Single-family | 3 | 7 | 7 | 0 |
| Single-family | 4 | 8 | 8 | 0 |
| Multifamily | 1 | 4 | 4 | 0 |
| Multifamily | 2 | 3 | 3 | 0 |
| Multifamily | 3 | 4 | 4 | 0 |
| Multifamily | 4 | 4 | 4 | 0 |
| Total | | 45 | 45 | 0 |

Fieldwork Season 7 (April 2021)

| Sampling Events | |
|-----------------------------------------------------------------------------|-----------------------------------------------|
| Garbage | Recycling |
| N/A | Tuesday, April 20 - Wednesday, April 21, 2021 |
| Reason for difference between planned and actual sample counts, if any: N/A | |

| Task 2: Residential Recycling Study | | | | |
|-------------------------------------|------|-----------|-----------|-------------------------|
| Generator | Zone | Planned | Actual | Difference from Planned |
| Single-family | 1 | 5 | 5 | 0 |
| Single-family | 2 | 5 | 5 | 0 |
| Single-family | 3 | 5 | 4 | -1 |
| Single-family | 4 | 5 | 6 | 1 |
| Multifamily | 1 | 3 | 2 | -1 |
| Multifamily | 2 | 2 | 1 | -1 |
| Multifamily | 3 | 3 | 5 | 2 |
| Multifamily | 4 | 2 | 2 | 0 |
| Total | | 30 | 30 | 0 |

APPENDIX I: COMPARISON TO PREVIOUS STUDIES

In this section, the findings from 2020 study were compared with findings from earlier studies. The purpose of this comparison is to identify changes in the composition of Seattle’s garbage and recycling stream over time. We examined statistical differences, using *t*-tests, between the two studies to determine if changes in the composition are statistically significant.

Introduction

We compared percentage estimates of broad material classes in garbage and recycling substreams to identify statistically significant changes, if any. The comparison compared unweighted percentage estimates, not tonnage, to control for population changes and other factors that may influence the total amount of garbage disposed from year to year. The reasons why or how these changes occurred are not investigated. Future studies could be designed to identify the potential causes of these variations. The changes may be due to a variety of factors such as consumer preferences, technological changes, population changes, relative increase or decrease in percentage of other material types, and extreme probability events such as a pandemic.

Calculations

The *t*-test examines the following hypothesis:

Hypothesis: “There is no statistically significant difference, between the 2000/01 and 2020 study periods, in the percentage of paper recycled.”

The *t*-tests (modified for ratio estimation) were used to examine the study year-to-study year variation. Identifying statistically significant differences requires a two-step calculation. First, assuming that the two groups to be compared have the same variance, a **pooled sample variance** was calculated:

$$S_{pool}^2 = \frac{[(n1 - 1) \cdot (n1 \cdot \hat{V}_{rj1})] + [(n2 - 1) \cdot (n2 \cdot \hat{V}_{rj2})]}{n1 + n2 - 2}$$

Next, the **t-statistic** was constructed:

$$t = \frac{(r1 - r2)}{\sqrt{\frac{S_{pool}^2}{n1} + \frac{S_{pool}^2}{n2}}}$$

Statistical Considerations

The *t*-test was based on the following statistical considerations.

a) Normality

It was assumed that the material types followed normal distribution. The *t*-tests are very robust to departures from this assumption, particularly with large sample sizes. In addition, most of the selected categories are sums of several individual material types, which improves our ability to meet the assumptions of normality.

b) Multiple T-Tests

The year-to-year comparison required conducting several t-tests (one for each material type), each of which carries that risk. However, we were willing to accept only a 10% chance overall of making an incorrect conclusion. Therefore, each test was adjusted by setting the significance threshold to $\frac{0.10}{w}$ (where w = the number of t-tests)¹².

Interpreting the Calculation Results

The larger the absolute value of the t-statistic, the less likely that the two populations have the same mean. The p-value describes the probability of observing the calculated t-statistic if there were no true difference between the population means. This report does not attempt an in-depth examination of potential causes of the changes in material composition over time.

The statistical tests used assume the hypothesis that there has been no change. For example, “There is no statistically significant difference, between the 2009 and 2015-2016 study periods in the proportion of disposed newspaper.” Statistics are then employed to look for evidence disproving the no-change hypothesis. A “significant” result means that there is enough evidence to disprove the hypothesis and that we can conclude that there is a true difference in composition over time. “Insignificant” results show that either 1) there is no true difference, or 2) even though there may appear to be a difference, there is not enough evidence to prove it because the findings are limited by sample size. It is also possible that changes occurred in material types that were not considered in this part of the analysis. For the purposes of this study, only those calculation results with a p-value of less than 1.25% are considered statistically significant.

The material list has changed from fifty-two material types in 1988/89 to 110 materials in 2020. Several materials moved to different broad material classes to better reflect new policies in recycling and composting. Cascadia adjusted the material types for each season to match a uniform material list, as described in [APPENDIX G: UNIFORM CLASSIFICATION](#) above.

Changes in Garbage Composition Percentages

Table 17 shows changes in composition percentages between 1988/89 and 2020 studies. **Paper, Glass, Metal, Organics,** and **CDL Wastes** decreased, while **Plastic, Hazardous** and **Other Materials** percentages increased in composition. **Other Materials** disposed in the garbage showed the greatest change, increasing from 6.1% in 1988/89 to 25.9% in 2020, but some of this increase is due to changes in material categorization. All changes were statistically significant.

¹² For more detail about this issue, please refer to Section 11.2 “The Multiplicity Problem and the Bonferroni Inequality” of An Introduction to Contemporary Statistics by L.H. Koopmans (Duxbury Press, 1981)

Table 17. Garbage Composition Changes and Trends, 1988/89 vs. 2020-21

| Material Class | Composition [†] | | Change | Change in Composition | t-Statistic | p-Value | Strength of Results |
|--------------------------|--------------------------|------------|----------|-----------------------|-------------|---------|---------------------|
| | 1988 | 2020 | | | | | |
| Paper | 31.2% | 19.7% | -37.0% ▼ | -11.6% ▼ | 13.37 | 0.00 | * stat. significant |
| Plastic | 8.1% | 16.6% | 106.0% ▲ | 8.5% ▲ | 21.35 | 0.00 | * stat. significant |
| Metal | 5.3% | 4.5% | -15.1% ▼ | -0.8% ▼ | 2.60 | 0.01 | * stat. significant |
| Glass | 6.4% | 4.2% | -34.1% ▼ | -2.2% ▼ | 7.15 | 0.00 | * stat. significant |
| Organics | 33.4% | 21.4% | -36.0% ▼ | -12.0% ▼ | 10.14 | 0.00 | * stat. significant |
| CDL Wastes | 8.8% | 5.9% | -32.7% ▼ | -2.9% ▼ | 4.09 | 0.00 | * stat. significant |
| Hazardous | 0.7% | 1.8% | 171.1% ▲ | 1.1% ▲ | 4.95 | 0.00 | * stat. significant |
| Other Materials | 6.1% | 25.9% | 322.1% ▲ | 19.8% ▲ | 21.94 | 0.00 | * stat. significant |
| Number of Samples | 212 | 289 | | | | | |

[†]Composition data is unweighted for the t-test

*Statistically significant difference = 0.0125 or less

Table 18 shows changes in composition percentages between 2014 and 2020 studies. **Paper, Plastic, Glass, Metal, Hazardous** and **CDL wastes** increased, while **Organics** and **Other Materials** decreased. Increase in **Plastic, Metal, Glass, Organics** and **Hazardous Materials** was statistically significant.

Table 18. Garbage Composition Changes and Trends, 2014 vs. 2020-21

| Material Class | Composition [†] | | Change | Change in Composition | t-Statistic | p-Value | Strength of Results |
|--------------------------|--------------------------|------------|----------|-----------------------|-------------|---------|---------------------|
| | 2014 | 2020 | | | | | |
| Paper | 19.6% | 19.7% | 0.5% ▲ | 0.1% ▲ | 0.17 | 0.87 | not significant |
| Plastic | 11.6% | 16.6% | 42.8% ▲ | 5.0% ▲ | 13.99 | 0.00 | * stat. significant |
| Metal | 3.3% | 4.5% | 35.8% ▲ | 1.2% ▲ | 4.65 | 0.00 | * stat. significant |
| Glass | 2.3% | 4.2% | 80.4% ▲ | 1.9% ▲ | 10.16 | 0.00 | * stat. significant |
| Organics | 30.7% | 21.4% | -30.3% ▼ | -9.3% ▼ | 13.09 | 0.00 | * stat. significant |
| CDL Wastes | 4.8% | 5.9% | 24.5% ▲ | 1.2% ▲ | 2.26 | 0.02 | not significant |
| Hazardous | 0.6% | 1.8% | 185.0% ▲ | 1.2% ▲ | 6.43 | 0.00 | * stat. significant |
| Other Materials | 27.1% | 25.9% | -4.3% ▼ | -1.2% ▼ | 1.38 | 0.17 | not significant |
| Number of Samples | 362 | 289 | | | | | |

[†]Composition data is unweighted for the t-test

*Statistically significant difference = 0.0125 or less

Changes in Recycling Composition Percentages

Table 19 shows changes in composition percentages between the 2000 and 2020 study periods. **Paper** and **Metal** percentages decreased, while percentages of **Plastic, Glass** and **Non-recyclables** increased. All changes were statistically significant.

Table 19. Recycling Composition Changes and Trends, 2000 vs. 2020-21

| Material Class | Composition† | | Change | Change in | | t-Statistic | p-Value | Strength of Results |
|-------------------------|--------------|------------|-----------|-------------|-------|-------------|-------------------|---------------------|
| | 2000 | 2020 | | Composition | | | | |
| Paper | 78.2% | 48.1% | -38.5% ▼ | -30.1% ▼ | 20.96 | 0.00 * | stat. significant | |
| Plastic | 1.4% | 3.7% | 162.5% ▲ | 2.3% ▲ | 20.17 | 0.00 * | stat. significant | |
| Metal | 13.3% | 5.4% | -59.8% ▼ | -8.0% ▼ | 5.75 | 0.00 * | stat. significant | |
| Glass | 1.8% | 26.0% | 1313.1% ▲ | 24.2% ▲ | 48.44 | 0.00 * | stat. significant | |
| Non-recyclables | 5.2% | 16.8% | 225.2% ▲ | 11.6% ▲ | 22.71 | 0.00 * | stat. significant | |
| Number of Sample | 549 | 300 | | | | | | |

†Composition data is unweighted for the t-test

*Statistically significant difference = 0.02 or less

Table 20Error! Reference source not found. shows changes in composition percentages between the 2015 and 2020 study periods. **Paper** and **Metal** percentages decreased, while percentages of **Plastic**, **Glass** and **Non-recyclables** increased. All changes were statistically significant.

Table 20. Recycling Composition Changes and Trends, 2015 vs. 2020-21

| Material Class | Composition† | | Change | Change in | | t-Statistic | p-Value | Strength of Results |
|-------------------------|--------------|------------|-----------|-------------|-------|-------------|-------------------|---------------------|
| | 2015 | 2020 | | Composition | | | | |
| Paper | 55.5% | 48.1% | -13.2% ▼ | -7.3% ▼ | 7.71 | 0.00 * | stat. significant | |
| Plastic | 2.4% | 3.7% | 56.2% ▲ | 1.3% ▲ | 10.46 | 0.00 * | stat. significant | |
| Metal | 25.8% | 5.4% | -79.2% ▼ | -20.4% ▼ | 39.69 | 0.00 * | stat. significant | |
| Glass | 2.3% | 26.0% | 1035.4% ▲ | 23.7% ▲ | 33.93 | 0.00 * | stat. significant | |
| Non-recyclables | 14.1% | 16.8% | 19.2% ▲ | 2.7% ▲ | 4.19 | 0.00 * | stat. significant | |
| Number of Sample | 270 | 300 | | | | | | |

†Composition data is unweighted for the t-test

*Statistically significant difference = 0.02 or less

APPENDIX J: DETAIL COMPOSITION TABLES

This section shows the detail composition tables for the overall and sub-sector categories.

Table 21: Composition – Garbage

| Material | Est. Percent | +/- | Est. Tons | Tons +/- | Material | Est. Percent | +/- | Est. Tons | Tons +/- |
|--------------------------------------------|--------------|-------------|----------------|------------|-----------------------------------|--------------|-------------|---------------|--------------|
| PAPER | 19.7% | 0.6% | 23,638 | 757 | COMPOSTABLE ORGANICS | 20.9% | 1.0% | 25,021 | 1,252 |
| Newspaper | 0.3% | 0.1% | 415 | 81 | Leaves and Grass | 0.7% | 0.3% | 790 | 371 |
| Plain OCC or Kraft Paper | 1.5% | 0.2% | 1,855 | 214 | Prunings | 0.4% | 0.1% | 425 | 172 |
| Grocery or Shopping Bags | 1.5% | 0.1% | 1,739 | 144 | Fats, Oils, and Grease | 0.0% | 0.0% | 50 | 21 |
| Paper Packaging | 1.6% | 0.1% | 1,887 | 128 | Edible Food Scraps - Packaged | 9.9% | 0.7% | 11,811 | 798 |
| Paper Products | 2.5% | 0.3% | 3,004 | 312 | Edible Food Scraps - Non-Packaged | 4.0% | 0.5% | 4,758 | 556 |
| Compostable or Soiled Paper Products | 8.3% | 0.4% | 9,995 | 494 | Non-Edible Food Scraps | 5.9% | 0.5% | 7,027 | 572 |
| Compostable Food Service Paper Packaging | 0.9% | 0.2% | 1,137 | 271 | Other Compostable Organics | 0.1% | 0.0% | 160 | 23 |
| Non-Comp Food Service Paper Packaging | 1.2% | 0.1% | 1,390 | 106 | OTHER ORGANICS | 22.7% | 1.2% | 27,207 | 1,450 |
| Waxed OCC or Kraft Paper | 0.0% | 0.0% | 23 | 17 | Textiles | 3.7% | 0.5% | 4,434 | 576 |
| Shredded Paper | 0.1% | 0.0% | 82 | 48 | Mixed Textiles | 1.9% | 0.3% | 2,273 | 338 |
| Aseptic Containers | 0.2% | 0.0% | 195 | 20 | Disposable Diapers | 7.3% | 0.6% | 8,734 | 761 |
| Gable Top Containers | 0.2% | 0.0% | 232 | 20 | Animal By-products | 9.2% | 0.9% | 11,073 | 1,040 |
| Other Polycoated Containers | 0.2% | 0.0% | 197 | 22 | Rubber Products | 0.5% | 0.1% | 618 | 179 |
| Mixed or Other Paper | 1.2% | 0.2% | 1,488 | 190 | Tires | 0.1% | 0.1% | 75 | 61 |
| PLASTIC | 16.7% | 0.5% | 20,036 | 644 | FURNITURE AND ELECTRONICS | 0.8% | 0.4% | 941 | 454 |
| PET Bottles | 0.8% | 0.1% | 963 | 73 | Furniture | 0.0% | 0.0% | 9 | 14 |
| HDPE Natural Bottles | 0.2% | 0.0% | 236 | 26 | Mattresses | 0.0% | 0.0% | 41 | 47 |
| HDPE Colored Bottles | 0.4% | 0.0% | 428 | 50 | Small Appliances | 0.1% | 0.0% | 61 | 54 |
| PP Bottles | 0.0% | 0.0% | 54 | 10 | Fluorescent Tubes and CFLs | 0.0% | 0.0% | 32 | 23 |
| Other Plastic Bottles | 0.0% | 0.0% | 16 | 6 | LED Lighting | 0.0% | 0.0% | 13 | 5 |
| PET Non-Bottle Packaging | 0.6% | 0.1% | 773 | 62 | Rechargeable Batteries | 0.0% | 0.0% | 4 | 5 |
| HDPE Non-Bottle Packaging | 0.1% | 0.0% | 120 | 26 | Other Dry-cell Batteries | 0.1% | 0.0% | 73 | 18 |
| PP Non-Bottle Packaging | 1.1% | 0.1% | 1,344 | 104 | Wet-cell Batteries | 0.2% | 0.3% | 246 | 316 |
| Other Non-Bottle Plastic Packaging | 0.5% | 0.0% | 647 | 41 | E-Cycle WA Electronics | 0.2% | 0.1% | 199 | 176 |
| Compostable Food Service Plastic Utensils | 0.0% | 0.0% | 33 | 9 | Non-E-Cycle WA Electronics | 0.2% | 0.1% | 265 | 122 |
| Compostable Food Service Plastic Packaging | 0.1% | 0.0% | 99 | 16 | C&D | 5.8% | 0.7% | 6,901 | 898 |
| Non-Comp Food Service Plastic Utensils | 0.1% | 0.0% | 90 | 12 | Clean Dimension Lumber | 0.7% | 0.2% | 805 | 277 |
| Non-Comp Food Service Plastic Packaging | 0.5% | 0.1% | 633 | 177 | Clean Engineered Wood | 0.4% | 0.1% | 434 | 125 |
| Takeout and Retail Plastic Bags | 0.5% | 0.0% | 623 | 51 | Other Untreated Wood | 0.0% | 0.0% | 45 | 30 |
| Other Clean PE Film | 0.4% | 0.1% | 489 | 87 | Crates or Boxes or Pallets | 0.1% | 0.1% | 74 | 72 |
| Stretch Wrap | 0.1% | 0.0% | 64 | 43 | New Painted Wood | 1.0% | 0.4% | 1,255 | 506 |
| Other Plastic Film | 5.3% | 0.2% | 6,391 | 261 | Old Painted Wood | 0.0% | 0.0% | 28 | 23 |
| Mailers | 0.2% | 0.0% | 277 | 28 | Creosote-treated Wood | 0.0% | 0.0% | - | - |
| Pouches | 0.2% | 0.0% | 192 | 17 | Other Treated Wood | 0.3% | 0.2% | 314 | 265 |
| Compostable Plastic Bags | 0.1% | 0.0% | 94 | 46 | Contaminated Wood | 0.4% | 0.1% | 442 | 154 |
| Plastic Garbage Bags | 1.9% | 0.1% | 2,337 | 150 | New Gypsum Scrap | 0.0% | 0.1% | 41 | 65 |
| EPS Food-grade | 0.3% | 0.0% | 365 | 38 | Demo Gypsum Scrap | 0.2% | 0.1% | 217 | 109 |
| Rigid Polystyrene Foam Insulation | 0.0% | 0.0% | 0 | 0 | Carpet | 0.7% | 0.3% | 822 | 368 |
| EPS Non-food Grade | 0.6% | 0.1% | 708 | 106 | Felt Carpet Pad | 0.0% | 0.0% | 59 | 49 |
| Large Durable Plastic Products | 0.3% | 0.1% | 380 | 152 | Fiberglass Insulation | 0.0% | 0.0% | 48 | 25 |
| Small Durable Plastic Products | 1.1% | 0.1% | 1,378 | 161 | Rock or Concrete or Brick | 0.5% | 0.2% | 589 | 253 |
| Plastic or Other Materials | 1.1% | 0.2% | 1,302 | 300 | Ceramics | 0.5% | 0.2% | 560 | 227 |
| GLASS | 4.5% | 0.3% | 5,397 | 368 | Asphaltic Roofing | 0.1% | 0.1% | 83 | 81 |
| Clear Beverage Glass Bottles | 0.7% | 0.1% | 795 | 101 | Other Construction Debris | 0.7% | 0.3% | 895 | 378 |
| Green Beverage Glass Bottles | 0.5% | 0.3% | 619 | 333 | Liquid Latex Paints | 0.2% | 0.1% | 190 | 107 |
| Brown Beverage Glass Bottles | 0.2% | 0.0% | 259 | 51 | HAZARDOUS WASTE | 1.3% | 0.4% | 1,514 | 459 |
| Container Glass | 0.5% | 0.1% | 582 | 87 | Oil-based Paints | 0.1% | 0.2% | 129 | 185 |
| Other Glass | 0.4% | 0.1% | 445 | 89 | Other Potentially Harmful Wastes | 0.1% | 0.1% | 158 | 123 |
| Mixed Cullet | 2.2% | 0.2% | 2,697 | 274 | Medical Waste | 0.6% | 0.3% | 747 | 335 |
| METAL | 4.3% | 0.4% | 5,212 | 502 | Non-Caustic Cleaners or Chemicals | 0.0% | 0.0% | 29 | 15 |
| Aluminum Cans | 0.3% | 0.0% | 370 | 27 | Pharmaceuticals and Medications | 0.0% | 0.0% | 51 | 28 |
| Aluminum Foil or Containers | 0.5% | 0.0% | 557 | 46 | Vitamins and Supplements | 0.1% | 0.0% | 61 | 33 |
| Other Nonferrous Metal | 0.0% | 0.0% | 16 | 10 | Personal Care or Cosmetics | 0.3% | 0.0% | 339 | 54 |
| Other Aluminum | 0.1% | 0.0% | 177 | 49 | FINES AND MISC | 3.4% | 0.4% | 4,035 | 518 |
| Empty Aerosol Cans | 0.1% | 0.0% | 173 | 25 | Sand, Soil or Dirt | 0.4% | 0.2% | 482 | 237 |
| Steel Food Cans | 0.5% | 0.0% | 654 | 57 | Non-distinct Fines | 1.0% | 0.1% | 1,158 | 150 |
| Other Ferrous Metal | 1.1% | 0.2% | 1,268 | 197 | Misc Organics | 1.2% | 0.3% | 1,472 | 318 |
| Mixed Metals or Materials | 1.7% | 0.3% | 1,982 | 348 | Misc Inorganics | 0.5% | 0.1% | 601 | 104 |
| Metal Oil Filters | 0.0% | 0.0% | 15 | 9 | PPE | 0.3% | 0.0% | 322 | 43 |
| Estimated Total | 100% | | 119,903 | | | | | | |
| Sample Count | | | 289 | | | | | | |

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

Table 22: Composition – Recycling

| Material | Est. Percent | + / - | Est. Tons | Tons +/- | Material | Est. Percent | + / - | Est. Tons | Tons +/- |
|--------------------------------------------|--------------|-------------|---------------|--------------|-----------------------------------|--------------|-------------|--------------|------------|
| PAPER | 52.3% | 1.8% | 47,979 | 1,649 | COMPOSTABLE ORGANICS | 1.7% | 0.4% | 1,535 | 380 |
| Newspaper | 4.7% | 0.4% | 4,315 | 369 | Leaves and Grass | 0.0% | 0.0% | 19 | 12 |
| Plain OCC or Kraft Paper | 19.6% | 1.4% | 18,006 | 1,253 | Prunings | 0.0% | 0.0% | 9 | 6 |
| Grocery or Shopping Bags | 3.5% | 0.2% | 3,220 | 206 | Fats, Oils, and Grease | 0.1% | 0.1% | 106 | 123 |
| Paper Packaging | 6.7% | 0.4% | 6,147 | 363 | Edible Food Scraps - Packaged | 1.0% | 0.3% | 916 | 275 |
| Paper Products | 14.2% | 0.9% | 13,003 | 850 | Edible Food Scraps - Non-Packaged | 0.2% | 0.1% | 162 | 54 |
| Compostable or Soiled Paper Products | 0.5% | 0.1% | 467 | 59 | Non-Edible Food Scraps | 0.3% | 0.1% | 294 | 98 |
| Compostable Food Service Paper Packaging | 0.2% | 0.0% | 226 | 35 | Other Compostable Organics | 0.0% | 0.0% | 29 | 12 |
| Non-Comp Food Service Paper Packaging | 0.3% | 0.0% | 266 | 32 | OTHER ORGANICS | 1.0% | 0.2% | 879 | 210 |
| Waxed OCC or Kraft Paper | 0.3% | 0.2% | 314 | 181 | Textiles | 0.4% | 0.2% | 366 | 154 |
| Shredded Paper | 0.1% | 0.0% | 88 | 33 | Mixed Textiles | 0.2% | 0.1% | 223 | 91 |
| Aseptic Containers | 0.3% | 0.0% | 249 | 27 | Disposable Diapers | 0.1% | 0.0% | 121 | 31 |
| Gable Top Containers | 0.6% | 0.0% | 589 | 37 | Animal By-products | 0.1% | 0.1% | 73 | 60 |
| Other Polycoated Containers | 0.1% | 0.0% | 90 | 12 | Rubber Products | 0.1% | 0.1% | 94 | 78 |
| Mixed or Other Paper | 1.1% | 0.2% | 998 | 156 | Tires | 0.0% | 0.0% | 1 | 2 |
| PLASTIC | 10.0% | 0.5% | 9,171 | 460 | FURNITURE AND ELECTRONICS | 0.6% | 0.6% | 549 | 520 |
| PET Bottles | 2.6% | 0.2% | 2,363 | 170 | Furniture | 0.0% | 0.0% | - | - |
| HDPE Natural Bottles | 0.6% | 0.0% | 540 | 46 | Mattresses | 0.0% | 0.0% | - | - |
| HDPE Colored Bottles | 0.6% | 0.0% | 557 | 44 | Small Appliances | 0.5% | 0.6% | 477 | 519 |
| PP Bottles | 0.1% | 0.0% | 74 | 24 | Fluorescent Tubes and CFLs | 0.0% | 0.0% | 2 | 1 |
| Other Plastic Bottles | 0.0% | 0.0% | 22 | 6 | LED Lighting | 0.0% | 0.0% | 0 | 0 |
| PET Non-Bottle Packaging | 1.3% | 0.1% | 1,195 | 67 | Rechargeable Batteries | 0.0% | 0.0% | 1 | 2 |
| HDPE Non-Bottle Packaging | 0.4% | 0.3% | 324 | 242 | Other Dry-cell Batteries | 0.0% | 0.0% | 13 | 5 |
| PP Non-Bottle Packaging | 1.1% | 0.1% | 1,006 | 75 | Wet-cell Batteries | 0.0% | 0.0% | - | - |
| Other Non-Bottle Plastic Packaging | 0.4% | 0.0% | 323 | 29 | E-Cycle WA Electronics | 0.0% | 0.0% | 3 | 3 |
| Compostable Food Service Plastic Utensils | 0.0% | 0.0% | 5 | 1 | Non-E-Cycle WA Electronics | 0.1% | 0.0% | 53 | 30 |
| Compostable Food Service Plastic Packaging | 0.0% | 0.0% | 45 | 14 | C&D | 0.6% | 0.2% | 515 | 208 |
| Non-Comp Food Service Plastic Utensils | 0.0% | 0.0% | 38 | 28 | Clean Dimension Lumber | 0.1% | 0.0% | 50 | 24 |
| Non-Comp Food Service Plastic Packaging | 0.3% | 0.0% | 291 | 29 | Clean Engineered Wood | 0.1% | 0.0% | 72 | 37 |
| Takeout and Retail Plastic Bags | 0.2% | 0.0% | 157 | 20 | Other Untreated Wood | 0.0% | 0.0% | 11 | 9 |
| Other Clean PE Film | 0.3% | 0.0% | 294 | 34 | Crates or Boxes or Pallets | 0.0% | 0.0% | 1 | 1 |
| Stretch Wrap | 0.0% | 0.0% | 24 | 24 | New Painted Wood | 0.0% | 0.0% | 25 | 11 |
| Other Plastic Film | 0.6% | 0.1% | 588 | 80 | Old Painted Wood | 0.0% | 0.0% | 10 | 8 |
| Mailers | 0.1% | 0.0% | 116 | 13 | Creosote-treated Wood | 0.0% | 0.0% | - | - |
| Pouches | 0.0% | 0.0% | 28 | 6 | Other Treated Wood | 0.0% | 0.0% | 10 | 10 |
| Compostable Plastic Bags | 0.0% | 0.0% | 1 | 1 | Contaminated Wood | 0.2% | 0.2% | 180 | 168 |
| Plastic Garbage Bags | 0.2% | 0.0% | 170 | 26 | New Gypsum Scrap | 0.0% | 0.0% | - | - |
| EPS Food-grade | 0.0% | 0.0% | 25 | 6 | Demol Gypsum Scrap | 0.0% | 0.0% | 1 | 2 |
| Rigid Polystyrene Foam Insulation | 0.0% | 0.0% | 0 | 0 | Carpet | 0.0% | 0.0% | 5 | 7 |
| EPS Non-food Grade | 0.1% | 0.0% | 97 | 18 | Felt Carpet Pad | 0.0% | 0.1% | 35 | 56 |
| Large Durable Plastic Products | 0.1% | 0.1% | 132 | 55 | Fiberglass Insulation | 0.0% | 0.0% | 30 | 18 |
| Small Durable Plastic Products | 0.6% | 0.2% | 549 | 162 | Rock or Concrete or Brick | 0.0% | 0.0% | 13 | 13 |
| Plastic or Other Materials | 0.2% | 0.1% | 208 | 50 | Ceramics | 0.1% | 0.0% | 69 | 25 |
| GLASS | 25.7% | 1.2% | 23,602 | 1,128 | Asphaltic Roofing | 0.0% | 0.0% | 0 | 0 |
| Clear Beverage Glass Bottles | 6.0% | 0.5% | 5,486 | 423 | Other Construction Debris | 0.0% | 0.0% | 3 | 3 |
| Green Beverage Glass Bottles | 7.1% | 0.5% | 6,545 | 489 | Liquid Latex Paints | 0.0% | 0.0% | - | - |
| Brown Beverage Glass Bottles | 2.9% | 0.4% | 2,697 | 336 | HAZARDOUS WASTE | 0.2% | 0.2% | 177 | 143 |
| Container Glass | 1.8% | 0.2% | 1,659 | 150 | Oil-based Paints | 0.0% | 0.0% | - | - |
| Other Glass | 0.2% | 0.0% | 213 | 41 | Other Potentially Harmful Wastes | 0.0% | 0.0% | 35 | 23 |
| Mixed Cullet | 7.6% | 0.7% | 7,001 | 621 | Medical Waste | 0.1% | 0.2% | 100 | 138 |
| METAL | 6.3% | 0.5% | 5,799 | 480 | Non-Caustic Cleaners or Chemicals | 0.0% | 0.0% | 8 | 7 |
| Aluminum Cans | 2.5% | 0.1% | 2,264 | 118 | Pharmaceuticals and Medications | 0.0% | 0.0% | 6 | 5 |
| Aluminum Foil or Containers | 0.2% | 0.0% | 168 | 22 | Vitamins and Supplements | 0.0% | 0.0% | 1 | 1 |
| Other Nonferrous Metal | 0.1% | 0.0% | 92 | 36 | Personal Care or Cosmetics | 0.0% | 0.0% | 27 | 17 |
| Other Aluminum | 0.1% | 0.0% | 64 | 29 | FINES AND MISC | 1.6% | 0.2% | 1,457 | 224 |
| Empty Aerosol Cans | 0.1% | 0.0% | 52 | 13 | Sand, Soil or Dirt | 0.0% | 0.0% | 1 | 1 |
| Steel Food Cans | 1.6% | 0.1% | 1,488 | 103 | Non-distinct Fines | 1.4% | 0.2% | 1,244 | 217 |
| Other Ferrous Metal | 1.4% | 0.5% | 1,311 | 415 | Misc Organics | 0.1% | 0.1% | 131 | 46 |
| Mixed Metals or Materials | 0.4% | 0.1% | 360 | 72 | Misc Inorganics | 0.1% | 0.0% | 53 | 26 |
| Metal Oil Filters | 0.0% | 0.0% | - | - | PPE | 0.0% | 0.0% | 29 | 8 |
| Estimated Total | 100% | | 91,664 | | | | | | |
| Sample Count | | | 300 | | | | | | |

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

Table 23: Composition – Garbage – Single-family

| Material | Est. Percent | +/- | Est. Tons | Tons +/- | Material | Est. Percent | +/- | Est. Tons | Tons +/- |
|--------------------------------------------|--------------|-------------|---------------|------------|-----------------------------------|--------------|-------------|---------------|--------------|
| PAPER | 17.0% | 0.7% | 11,391 | 481 | COMPOSTABLE ORGANICS | 20.4% | 1.6% | 13,634 | 1,090 |
| Newspaper | 0.3% | 0.1% | 189 | 66 | Leaves and Grass | 0.4% | 0.4% | 295 | 247 |
| Plain OCC or Kraft Paper | 0.8% | 0.2% | 560 | 114 | Prunings | 0.2% | 0.1% | 158 | 85 |
| Grocery or Shopping Bags | 1.1% | 0.1% | 741 | 63 | Fats, Oils, and Grease | 0.0% | 0.0% | 33 | 18 |
| Paper Packaging | 1.1% | 0.1% | 722 | 62 | Edible Food Scraps - Packaged | 10.8% | 1.0% | 7,254 | 692 |
| Paper Products | 2.1% | 0.3% | 1,432 | 176 | Edible Food Scraps - Non-Packaged | 3.3% | 0.4% | 2,224 | 272 |
| Compostable or Soiled Paper Products | 7.9% | 0.6% | 5,291 | 377 | Non-Edible Food Scraps | 5.3% | 0.6% | 3,564 | 404 |
| Compostable Food Service Paper Packaging | 0.8% | 0.4% | 555 | 251 | Other Compostable Organics | 0.2% | 0.0% | 106 | 19 |
| Non-Comp Food Service Paper Packaging | 1.1% | 0.1% | 745 | 77 | OTHER ORGANICS | 27.7% | 1.9% | 18,557 | 1,273 |
| Waxed OCC or Kraft Paper | 0.0% | 0.0% | 3 | 4 | Textiles | 3.5% | 0.7% | 2,337 | 481 |
| Shredded Paper | 0.1% | 0.1% | 49 | 38 | Mixed Textiles | 1.8% | 0.4% | 1,219 | 268 |
| Aseptic Containers | 0.2% | 0.0% | 116 | 16 | Disposable Diapers | 9.6% | 1.0% | 6,413 | 649 |
| Gable Top Containers | 0.2% | 0.0% | 114 | 19 | Animal By-products | 12.2% | 1.3% | 8,160 | 902 |
| Other Polyc coated Containers | 0.2% | 0.0% | 115 | 17 | Rubber Products | 0.6% | 0.2% | 411 | 163 |
| Mixed or Other Paper | 1.1% | 0.1% | 759 | 72 | Tires | 0.0% | 0.0% | 17 | 17 |
| PLASTIC | 16.1% | 0.6% | 10,768 | 425 | FURNITURE AND ELECTRONICS | 0.8% | 0.6% | 561 | 427 |
| PET Bottles | 0.6% | 0.1% | 376 | 53 | Furniture | 0.0% | 0.0% | - | - |
| HDPE Natural Bottles | 0.1% | 0.0% | 66 | 10 | Mattresses | 0.0% | 0.0% | - | - |
| HDPE Colored Bottles | 0.3% | 0.1% | 216 | 34 | Small Appliances | 0.0% | 0.0% | 20 | 16 |
| PP Bottles | 0.0% | 0.0% | 32 | 5 | Fluorescent Tubes and CFLs | 0.0% | 0.0% | 13 | 9 |
| Other Plastic Bottles | 0.0% | 0.0% | 7 | 3 | LED Lighting | 0.0% | 0.0% | 10 | 4 |
| PET Non-Bottle Packaging | 0.6% | 0.1% | 428 | 40 | Rechargeable Batteries | 0.0% | 0.0% | 1 | 1 |
| HDPE Non-Bottle Packaging | 0.1% | 0.0% | 53 | 21 | Other Dry-cell Batteries | 0.1% | 0.0% | 53 | 17 |
| PP Non-Bottle Packaging | 1.0% | 0.1% | 676 | 60 | Wet-cell Batteries | 0.4% | 0.5% | 246 | 316 |
| Other Non-Bottle Plastic Packaging | 0.6% | 0.0% | 374 | 32 | E-Cycle WA Electronics | 0.2% | 0.3% | 158 | 172 |
| Compostable Food Service Plastic Utensils | 0.0% | 0.0% | 11 | 3 | Non-E-Cycle WA Electronics | 0.1% | 0.1% | 61 | 42 |
| Compostable Food Service Plastic Packaging | 0.1% | 0.0% | 51 | 10 | C&D | 6.1% | 1.0% | 4,100 | 645 |
| Non-Comp Food Service Plastic Utensils | 0.1% | 0.0% | 45 | 7 | Clean Dimension Lumber | 0.7% | 0.3% | 437 | 233 |
| Non-Comp Food Service Plastic Packaging | 0.4% | 0.0% | 279 | 33 | Clean Engineered Wood | 0.3% | 0.1% | 184 | 78 |
| Takeout and Retail Plastic Bags | 0.5% | 0.1% | 341 | 42 | Other Untreated Wood | 0.0% | 0.0% | 17 | 15 |
| Other Clean PE Film | 0.4% | 0.1% | 292 | 50 | Crates or Boxes or Pallets | 0.1% | 0.1% | 41 | 50 |
| Stretch Wrap | 0.0% | 0.0% | 13 | 16 | New Painted Wood | 1.1% | 0.6% | 758 | 411 |
| Other Plastic Film | 5.5% | 0.2% | 3,674 | 149 | Old Painted Wood | 0.0% | 0.0% | 25 | 23 |
| Mailers | 0.3% | 0.0% | 179 | 23 | Creosote-treated Wood | 0.0% | 0.0% | - | - |
| Pouches | 0.2% | 0.0% | 127 | 14 | Other Treated Wood | 0.5% | 0.4% | 313 | 265 |
| Compostable Plastic Bags | 0.1% | 0.1% | 67 | 44 | Contaminated Wood | 0.2% | 0.1% | 135 | 56 |
| Plastic Garbage Bags | 1.7% | 0.2% | 1,153 | 101 | New Gypsum Scrap | 0.1% | 0.1% | 41 | 65 |
| EPS Food-grade | 0.4% | 0.0% | 240 | 33 | Demo Gypsum Scrap | 0.2% | 0.1% | 142 | 77 |
| Rigid Polystyrene Foam Insulation | 0.0% | 0.0% | 0 | 0 | Carpet | 0.5% | 0.2% | 345 | 160 |
| EPS Non-food Grade | 0.7% | 0.1% | 437 | 95 | Felt Carpet Pad | 0.0% | 0.0% | 6 | 10 |
| Large Durable Plastic Products | 0.2% | 0.1% | 110 | 48 | Fiberglass Insulation | 0.1% | 0.0% | 38 | 24 |
| Small Durable Plastic Products | 1.0% | 0.1% | 649 | 82 | Rock or Concrete or Brick | 0.6% | 0.3% | 426 | 218 |
| Plastic or Other Materials | 1.3% | 0.4% | 872 | 271 | Ceramics | 0.6% | 0.3% | 383 | 220 |
| GLASS | 3.4% | 0.3% | 2,300 | 199 | Asphaltic Roofing | 0.1% | 0.1% | 54 | 69 |
| Clear Beverage Glass Bottles | 0.5% | 0.1% | 313 | 73 | Other Construction Debris | 0.9% | 0.5% | 591 | 301 |
| Green Beverage Glass Bottles | 0.3% | 0.1% | 172 | 39 | Liquid Latex Paints | 0.2% | 0.2% | 163 | 106 |
| Brown Beverage Glass Bottles | 0.1% | 0.0% | 53 | 18 | HAZARDOUS WASTE | 0.7% | 0.2% | 494 | 157 |
| Container Glass | 0.5% | 0.1% | 345 | 77 | Oil-based Paints | 0.0% | 0.0% | 2 | 3 |
| Other Glass | 0.4% | 0.1% | 275 | 82 | Other Potentially Harmful Wastes | 0.1% | 0.0% | 43 | 19 |
| Mixed Cullet | 1.7% | 0.2% | 1,141 | 150 | Medical Waste | 0.2% | 0.2% | 138 | 124 |
| METAL | 3.7% | 0.4% | 2,483 | 238 | Non-Caustic Cleaners or Chemicals | 0.0% | 0.0% | 10 | 9 |
| Aluminum Cans | 0.2% | 0.0% | 136 | 15 | Pharmaceuticals and Medications | 0.0% | 0.0% | 30 | 23 |
| Aluminum Foil or Containers | 0.5% | 0.1% | 352 | 37 | Vitamins and Supplements | 0.0% | 0.0% | 23 | 11 |
| Other Nonferrous Metal | 0.0% | 0.0% | 5 | 3 | Personal Care or Cosmetics | 0.4% | 0.1% | 247 | 48 |
| Other Aluminum | 0.1% | 0.1% | 96 | 36 | FINES AND MISC | 3.9% | 0.7% | 2,591 | 489 |
| Empty Aerosol Cans | 0.2% | 0.0% | 100 | 21 | Sand, Soil or Dirt | 0.6% | 0.3% | 393 | 230 |
| Steel Food Cans | 0.5% | 0.1% | 328 | 41 | Non-distinct Fines | 0.9% | 0.1% | 584 | 96 |
| Other Ferrous Metal | 1.1% | 0.2% | 702 | 159 | Misc Organics | 1.7% | 0.5% | 1,134 | 312 |
| Mixed Metals or Materials | 1.1% | 0.2% | 759 | 120 | Misc Inorganics | 0.6% | 0.1% | 369 | 82 |
| Metal Oil Filters | 0.0% | 0.0% | 5 | 6 | PPE | 0.2% | 0.0% | 110 | 15 |
| Estimated Total | 100% | | 66,878 | | | | | | |
| Sample Count | | | 145 | | | | | | |

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

Table 24: Composition – Recycling – Single-family

| Material | Est. Percent | + / - | Est. Tons | Tons +/- | Material | Est. Percent | + / - | Est. Tons | Tons +/- |
|--------------------------------------------|--------------|-------------|---------------|------------|-----------------------------------|--------------|-------------|--------------|------------|
| PAPER | 51.9% | 1.6% | 31,832 | 985 | COMPOSTABLE ORGANICS | 0.8% | 0.2% | 470 | 123 |
| Newspaper | 5.3% | 0.5% | 3,232 | 313 | Leaves and Grass | 0.0% | 0.0% | 13 | 10 |
| Plain OCC or Kraft Paper | 18.7% | 1.3% | 11,500 | 784 | Prunings | 0.0% | 0.0% | 2 | 1 |
| Grocery or Shopping Bags | 3.7% | 0.3% | 2,286 | 154 | Fats, Oils, and Grease | 0.0% | 0.0% | 0 | 0 |
| Paper Packaging | 6.8% | 0.4% | 4,193 | 219 | Edible Food Scraps - Packaged | 0.6% | 0.2% | 339 | 106 |
| Paper Products | 14.1% | 0.8% | 8,620 | 493 | Edible Food Scraps - Non-Packaged | 0.1% | 0.0% | 37 | 14 |
| Compostable or Soiled Paper Products | 0.4% | 0.1% | 235 | 35 | Non-Edible Food Scraps | 0.1% | 0.0% | 65 | 19 |
| Compostable Food Service Paper Packaging | 0.2% | 0.0% | 132 | 23 | Other Compostable Organics | 0.0% | 0.0% | 15 | 6 |
| Non-Comp Food Service Paper Packaging | 0.3% | 0.0% | 165 | 13 | OTHER ORGANICS | 0.6% | 0.2% | 382 | 125 |
| Waxed OCC or Kraft Paper | 0.1% | 0.1% | 42 | 36 | Textiles | 0.2% | 0.1% | 119 | 31 |
| Shredded Paper | 0.1% | 0.0% | 47 | 26 | Mixed Textiles | 0.2% | 0.1% | 105 | 61 |
| Aseptic Containers | 0.3% | 0.0% | 172 | 18 | Disposable Diapers | 0.1% | 0.0% | 39 | 18 |
| Gable Top Containers | 0.8% | 0.1% | 471 | 34 | Animal By-products | 0.0% | 0.0% | 29 | 27 |
| Other Polycoated Containers | 0.1% | 0.0% | 66 | 9 | Rubber Products | 0.1% | 0.1% | 89 | 78 |
| Mixed or Other Paper | 1.1% | 0.2% | 670 | 137 | Tires | 0.0% | 0.0% | - | - |
| PLASTIC | 10.0% | 0.6% | 6,163 | 357 | FURNITURE AND ELECTRONICS | 0.0% | 0.0% | 29 | 17 |
| PET Bottles | 2.5% | 0.2% | 1,538 | 109 | Furniture | 0.0% | 0.0% | - | - |
| HDPE Natural Bottles | 0.6% | 0.1% | 366 | 37 | Mattresses | 0.0% | 0.0% | - | - |
| HDPE Colored Bottles | 0.6% | 0.1% | 382 | 33 | Small Appliances | 0.0% | 0.0% | 5 | 6 |
| PP Bottles | 0.1% | 0.0% | 61 | 24 | Fluorescent Tubes and CFLs | 0.0% | 0.0% | 2 | 1 |
| Other Plastic Bottles | 0.0% | 0.0% | 12 | 5 | LED Lighting | 0.0% | 0.0% | 0 | 0 |
| PET Non-Bottle Packaging | 1.5% | 0.1% | 934 | 54 | Rechargeable Batteries | 0.0% | 0.0% | - | - |
| HDPE Non-Bottle Packaging | 0.2% | 0.0% | 134 | 25 | Other Dry-cell Batteries | 0.0% | 0.0% | 6 | 2 |
| PP Non-Bottle Packaging | 1.2% | 0.1% | 750 | 55 | Wet-cell Batteries | 0.0% | 0.0% | - | - |
| Other Non-Bottle Plastic Packaging | 0.4% | 0.0% | 219 | 23 | E-Cycle WA Electronics | 0.0% | 0.0% | 0 | 1 |
| Compostable Food Service Plastic Utensils | 0.0% | 0.0% | 3 | 1 | Non-E-Cycle WA Electronics | 0.0% | 0.0% | 16 | 16 |
| Compostable Food Service Plastic Packaging | 0.0% | 0.0% | 27 | 11 | C&D | 0.2% | 0.1% | 152 | 36 |
| Non-Comp Food Service Plastic Utensils | 0.1% | 0.0% | 32 | 28 | Clean Dimension Lumber | 0.0% | 0.0% | 15 | 13 |
| Non-Comp Food Service Plastic Packaging | 0.3% | 0.0% | 209 | 22 | Clean Engineered Wood | 0.1% | 0.0% | 36 | 24 |
| Takeout and Retail Plastic Bags | 0.1% | 0.0% | 81 | 12 | Other Untreated Wood | 0.0% | 0.0% | 5 | 7 |
| Other Clean PE Film | 0.3% | 0.0% | 180 | 29 | Crates or Boxes or Pallets | 0.0% | 0.0% | - | - |
| Stretch Wrap | 0.0% | 0.0% | 3 | 3 | New Painted Wood | 0.0% | 0.0% | 10 | 8 |
| Other Plastic Film | 0.6% | 0.1% | 357 | 68 | Old Painted Wood | 0.0% | 0.0% | 5 | 6 |
| Mailers | 0.1% | 0.0% | 76 | 9 | Creosote-treated Wood | 0.0% | 0.0% | - | - |
| Pouches | 0.0% | 0.0% | 18 | 4 | Other Treated Wood | 0.0% | 0.0% | 3 | 3 |
| Compostable Plastic Bags | 0.0% | 0.0% | 1 | 0 | Contaminated Wood | 0.0% | 0.0% | 10 | 7 |
| Plastic Garbage Bags | 0.1% | 0.0% | 74 | 10 | New Gypsum Scrap | 0.0% | 0.0% | - | - |
| EPS Food-grade | 0.0% | 0.0% | 12 | 3 | Demo Gypsum Scrap | 0.0% | 0.0% | 1 | 2 |
| Rigid Polystyrene Foam Insulation | 0.0% | 0.0% | 0 | 0 | Carpet | 0.0% | 0.0% | 0 | 0 |
| EPS Non-food Grade | 0.1% | 0.0% | 53 | 13 | Felt Carpet Pad | 0.0% | 0.0% | - | - |
| Large Durable Plastic Products | 0.2% | 0.1% | 99 | 52 | Fiberglass Insulation | 0.0% | 0.0% | 28 | 18 |
| Small Durable Plastic Products | 0.7% | 0.3% | 419 | 160 | Rock or Concrete or Brick | 0.0% | 0.0% | - | - |
| Plastic or Other Materials | 0.2% | 0.0% | 122 | 26 | Ceramics | 0.1% | 0.0% | 37 | 15 |
| GLASS | 27.8% | 1.5% | 17,048 | 899 | Asphaltic Roofing | 0.0% | 0.0% | 0 | 0 |
| Clear Beverage Glass Bottles | 6.0% | 0.5% | 3,710 | 320 | Other Construction Debris | 0.0% | 0.0% | 1 | 1 |
| Green Beverage Glass Bottles | 7.9% | 0.6% | 4,816 | 393 | Liquid Latex Paints | 0.0% | 0.0% | - | - |
| Brown Beverage Glass Bottles | 2.8% | 0.4% | 1,744 | 227 | HAZARDOUS WASTE | 0.0% | 0.0% | 25 | 11 |
| Container Glass | 2.0% | 0.2% | 1,216 | 134 | Oil-based Paints | 0.0% | 0.0% | - | - |
| Other Glass | 0.2% | 0.0% | 133 | 29 | Other Potentially Harmful Wastes | 0.0% | 0.0% | 10 | 7 |
| Mixed Cullet | 8.9% | 0.9% | 5,429 | 569 | Medical Waste | 0.0% | 0.0% | 1 | 2 |
| METAL | 6.8% | 0.7% | 4,189 | 448 | Non-Caustic Cleaners or Chemicals | 0.0% | 0.0% | 4 | 6 |
| Aluminum Cans | 2.7% | 0.2% | 1,657 | 95 | Pharmaceuticals and Medications | 0.0% | 0.0% | 4 | 4 |
| Aluminum Foil or Containers | 0.2% | 0.0% | 126 | 18 | Vitamins and Supplements | 0.0% | 0.0% | 0 | 0 |
| Other Nonferrous Metal | 0.1% | 0.1% | 72 | 35 | Personal Care or Cosmetics | 0.0% | 0.0% | 6 | 3 |
| Other Aluminum | 0.0% | 0.0% | 23 | 13 | FINES AND MISC | 1.7% | 0.4% | 1,055 | 216 |
| Empty Aerosol Cans | 0.0% | 0.0% | 27 | 7 | Sand, Soil or Dirt | 0.0% | 0.0% | - | - |
| Steel Food Cans | 1.8% | 0.1% | 1,075 | 67 | Non-distinct Fines | 1.5% | 0.3% | 921 | 210 |
| Other Ferrous Metal | 1.6% | 0.6% | 965 | 388 | Misc Organics | 0.1% | 0.1% | 86 | 42 |
| Mixed Metals or Materials | 0.4% | 0.1% | 243 | 64 | Misc Inorganics | 0.1% | 0.0% | 37 | 25 |
| Metal Oil Filters | 0.0% | 0.0% | - | - | PPE | 0.0% | 0.0% | 12 | 3 |
| Estimated Total | 100% | | 61,345 | | | | | | |
| Sample Count | | | 200 | | | | | | |

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

Table 25: Composition – Garbage – Multifamily

| Material | Est. Percent | + / - | Est. Tons | Tons +/- | Material | Est. Percent | + / - | Est. Tons | Tons +/- |
|--------------------------------------------|--------------|-------------|---------------|------------|-----------------------------------|--------------|-------------|---------------|------------|
| PAPER | 23.1% | 1.1% | 12,247 | 584 | COMPOSTABLE ORGANICS | 21.5% | 1.2% | 11,387 | 616 |
| Newspaper | 0.4% | 0.1% | 227 | 46 | Leaves and Grass | 0.9% | 0.5% | 495 | 277 |
| Plain OCC or Kraft Paper | 2.4% | 0.3% | 1,295 | 182 | Prunings | 0.5% | 0.3% | 267 | 149 |
| Grocery or Shopping Bags | 1.9% | 0.2% | 998 | 129 | Fats, Oils, and Grease | 0.0% | 0.0% | 18 | 9 |
| Paper Packaging | 2.2% | 0.2% | 1,164 | 113 | Edible Food Scraps - Packaged | 8.6% | 0.7% | 4,557 | 397 |
| Paper Products | 3.0% | 0.5% | 1,573 | 257 | Edible Food Scraps - Non-Packaged | 4.8% | 0.9% | 2,534 | 485 |
| Compostable or Soiled Paper Products | 8.9% | 0.6% | 4,704 | 318 | Non-Edible Food Scraps | 6.5% | 0.8% | 3,462 | 405 |
| Compostable Food Service Paper Packaging | 1.1% | 0.2% | 582 | 102 | Other Compostable Organics | 0.1% | 0.0% | 54 | 13 |
| Non-Comp Food Service Paper Packaging | 1.2% | 0.1% | 645 | 72 | OTHER ORGANICS | 16.3% | 1.3% | 8,650 | 696 |
| Waxed OCC or Kraft Paper | 0.0% | 0.0% | 19 | 16 | Textiles | 4.0% | 0.6% | 2,097 | 318 |
| Shredded Paper | 0.1% | 0.1% | 33 | 29 | Mixed Textiles | 2.0% | 0.4% | 1,054 | 206 |
| Aseptic Containers | 0.2% | 0.0% | 80 | 11 | Disposable Diapers | 4.4% | 0.7% | 2,321 | 397 |
| Gable Top Containers | 0.2% | 0.0% | 118 | 23 | Animal By-products | 5.5% | 1.0% | 2,914 | 518 |
| Other Polycoated Containers | 0.2% | 0.0% | 82 | 13 | Rubber Products | 0.4% | 0.1% | 207 | 75 |
| Mixed or Other Paper | 1.4% | 0.3% | 729 | 175 | Tires | 0.1% | 0.1% | 58 | 58 |
| PLASTIC | 17.5% | 0.9% | 9,268 | 484 | FURNITURE AND ELECTRONICS | 0.7% | 0.3% | 380 | 153 |
| PET Bottles | 1.1% | 0.1% | 587 | 51 | Furniture | 0.0% | 0.0% | 9 | 14 |
| HDPE Natural Bottles | 0.3% | 0.0% | 170 | 24 | Mattresses | 0.1% | 0.1% | 41 | 47 |
| HDPE Colored Bottles | 0.4% | 0.1% | 212 | 37 | Small Appliances | 0.1% | 0.1% | 40 | 52 |
| PP Bottles | 0.0% | 0.0% | 23 | 9 | Fluorescent Tubes and CFLs | 0.0% | 0.0% | 19 | 21 |
| Other Plastic Bottles | 0.0% | 0.0% | 9 | 5 | LED Lighting | 0.0% | 0.0% | 3 | 2 |
| PET Non-Bottle Packaging | 0.7% | 0.1% | 346 | 47 | Rechargeable Batteries | 0.0% | 0.0% | 3 | 5 |
| HDPE Non-Bottle Packaging | 0.1% | 0.0% | 67 | 15 | Other Dry-cell Batteries | 0.0% | 0.0% | 20 | 6 |
| PP Non-Bottle Packaging | 1.3% | 0.2% | 668 | 86 | Wet-cell Batteries | 0.0% | 0.0% | - | - |
| Other Non-Bottle Plastic Packaging | 0.5% | 0.0% | 272 | 26 | E-Cycle WA Electronics | 0.1% | 0.1% | 41 | 33 |
| Compostable Food Service Plastic Utensils | 0.0% | 0.0% | 21 | 8 | Non-E-Cycle WA Electronics | 0.4% | 0.2% | 204 | 115 |
| Compostable Food Service Plastic Packaging | 0.1% | 0.0% | 48 | 13 | C&D | 5.3% | 1.2% | 2,801 | 625 |
| Non-Comp Food Service Plastic Utensils | 0.1% | 0.0% | 45 | 9 | Clean Dimension Lumber | 0.7% | 0.3% | 368 | 151 |
| Non-Comp Food Service Plastic Packaging | 0.7% | 0.3% | 354 | 173 | Clean Engineered Wood | 0.5% | 0.2% | 249 | 98 |
| Takeout and Retail Plastic Bags | 0.5% | 0.1% | 282 | 27 | Other Untreated Wood | 0.1% | 0.0% | 28 | 26 |
| Other Clean PE Film | 0.4% | 0.1% | 197 | 71 | Crates or Boxes or Pallets | 0.1% | 0.1% | 33 | 52 |
| Stretch Wrap | 0.1% | 0.1% | 51 | 40 | New Painted Wood | 0.9% | 0.6% | 498 | 296 |
| Other Plastic Film | 5.1% | 0.4% | 2,717 | 214 | Old Painted Wood | 0.0% | 0.0% | 3 | 3 |
| Mailers | 0.2% | 0.0% | 98 | 16 | Creosote-treated Wood | 0.0% | 0.0% | - | - |
| Pouches | 0.1% | 0.0% | 65 | 11 | Other Treated Wood | 0.0% | 0.0% | 1 | 1 |
| Compostable Plastic Bags | 0.1% | 0.0% | 27 | 12 | Contaminated Wood | 0.6% | 0.3% | 308 | 143 |
| Plastic Garbage Bags | 2.2% | 0.2% | 1,184 | 111 | New Gypsum Scrap | 0.0% | 0.0% | - | - |
| EPS Food-grade | 0.2% | 0.0% | 125 | 18 | Demol Gypsum Scrap | 0.1% | 0.1% | 75 | 77 |
| Rigid Polystyrene Foam Insulation | 0.0% | 0.0% | - | - | Carpet | 0.9% | 0.6% | 477 | 332 |
| EPS Non-food Grade | 0.5% | 0.1% | 271 | 46 | Felt Carpet Pad | 0.1% | 0.1% | 52 | 48 |
| Large Durable Plastic Products | 0.5% | 0.3% | 270 | 144 | Fiberglass Insulation | 0.0% | 0.0% | 10 | 6 |
| Small Durable Plastic Products | 1.4% | 0.3% | 729 | 139 | Rock or Concrete or Brick | 0.3% | 0.2% | 163 | 129 |
| Plastic or Other Materials | 0.8% | 0.2% | 430 | 129 | Ceramics | 0.3% | 0.1% | 178 | 55 |
| GLASS | 5.8% | 0.6% | 3,097 | 310 | Asphaltic Roofing | 0.1% | 0.1% | 29 | 43 |
| Clear Beverage Glass Bottles | 0.9% | 0.1% | 482 | 70 | Other Construction Debris | 0.6% | 0.4% | 304 | 229 |
| Green Beverage Glass Bottles | 0.8% | 0.6% | 446 | 330 | Liquid Latex Paints | 0.0% | 0.0% | 26 | 16 |
| Brown Beverage Glass Bottles | 0.4% | 0.1% | 206 | 47 | HAZARDOUS WASTE | 1.9% | 0.8% | 1,021 | 432 |
| Container Glass | 0.4% | 0.1% | 237 | 39 | Oil-based Paints | 0.2% | 0.3% | 128 | 185 |
| Other Glass | 0.3% | 0.1% | 170 | 35 | Other Potentially Harmful Wastes | 0.2% | 0.2% | 115 | 121 |
| Mixed Cullet | 2.9% | 0.4% | 1,557 | 229 | Medical Waste | 1.1% | 0.6% | 609 | 312 |
| METAL | 5.1% | 0.8% | 2,729 | 442 | Non-Caustic Cleaners or Chemicals | 0.0% | 0.0% | 19 | 13 |
| Aluminum Cans | 0.4% | 0.0% | 234 | 22 | Pharmaceuticals and Medications | 0.0% | 0.0% | 20 | 16 |
| Aluminum Foil or Containers | 0.4% | 0.1% | 205 | 27 | Vitamins and Supplements | 0.1% | 0.1% | 38 | 31 |
| Other Nonferrous Metal | 0.0% | 0.0% | 11 | 9 | Personal Care or Cosmetics | 0.2% | 0.0% | 91 | 24 |
| Other Aluminum | 0.2% | 0.1% | 81 | 33 | FINES AND MISC | 2.7% | 0.3% | 1,444 | 171 |
| Empty Aerosol Cans | 0.1% | 0.0% | 73 | 14 | Sand, Soil or Dirt | 0.2% | 0.1% | 89 | 60 |
| Steel Food Cans | 0.6% | 0.1% | 326 | 39 | Non-distinct Fines | 1.1% | 0.2% | 574 | 115 |
| Other Ferrous Metal | 1.1% | 0.2% | 565 | 116 | Misc Organics | 0.6% | 0.1% | 337 | 61 |
| Mixed Metals or Materials | 2.3% | 0.6% | 1,224 | 327 | Misc Inorganics | 0.4% | 0.1% | 232 | 63 |
| Metal Oil Filters | 0.0% | 0.0% | 9 | 8 | PPE | 0.4% | 0.1% | 211 | 40 |
| Estimated Total | 100% | | 53,026 | | | | | | |
| Sample Count | | | 144 | | | | | | |

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

Table 26: Composition – Recycling – Multifamily

| Material | Est. Percent | + / - | Est. Tons | Tons +/- | Material | Est. Percent | + / - | Est. Tons | Tons +/- |
|--------------------------------------------|--------------|-------------|---------------|--------------|-----------------------------------|--------------|-------------|--------------|------------|
| PAPER | 53.3% | 4.4% | 16,147 | 1,323 | COMPOSTABLE ORGANICS | 3.5% | 1.2% | 1,064 | 360 |
| Newspaper | 3.6% | 0.6% | 1,082 | 195 | Leaves and Grass | 0.0% | 0.0% | 6 | 6 |
| Plain OCC or Kraft Paper | 21.5% | 3.2% | 6,506 | 977 | Prunings | 0.0% | 0.0% | 8 | 6 |
| Grocery or Shopping Bags | 3.1% | 0.5% | 934 | 137 | Fats, Oils, and Grease | 0.3% | 0.4% | 106 | 123 |
| Paper Packaging | 6.4% | 1.0% | 1,954 | 289 | Edible Food Scraps - Packaged | 1.9% | 0.8% | 577 | 254 |
| Paper Products | 14.5% | 2.3% | 4,383 | 693 | Edible Food Scraps - Non-Packaged | 0.4% | 0.2% | 125 | 52 |
| Compostable or Soiled Paper Products | 0.8% | 0.2% | 232 | 48 | Non-Edible Food Scraps | 0.8% | 0.3% | 228 | 97 |
| Compostable Food Service Paper Packaging | 0.3% | 0.1% | 94 | 27 | Other Compostable Organics | 0.0% | 0.0% | 14 | 10 |
| Non-Comp Food Service Paper Packaging | 0.3% | 0.1% | 101 | 29 | OTHER ORGANICS | 1.6% | 0.6% | 497 | 168 |
| Waxed OCC or Kraft Paper | 0.9% | 0.6% | 271 | 177 | Textiles | 0.8% | 0.5% | 247 | 151 |
| Shredded Paper | 0.1% | 0.1% | 42 | 20 | Mixed Textiles | 0.4% | 0.2% | 118 | 68 |
| Aseptic Containers | 0.3% | 0.1% | 77 | 21 | Disposable Diapers | 0.3% | 0.1% | 82 | 25 |
| Gable Top Containers | 0.4% | 0.0% | 118 | 13 | Animal By-products | 0.1% | 0.2% | 44 | 53 |
| Other Polycoated Containers | 0.1% | 0.0% | 24 | 7 | Rubber Products | 0.0% | 0.0% | 4 | 3 |
| Mixed or Other Paper | 1.1% | 0.2% | 328 | 74 | Tires | 0.0% | 0.0% | 1 | 2 |
| PLASTIC | 9.9% | 1.0% | 3,009 | 291 | FURNITURE AND ELECTRONICS | 1.7% | 1.7% | 520 | 520 |
| PET Bottles | 2.7% | 0.4% | 825 | 130 | Furniture | 0.0% | 0.0% | - | - |
| HDPE Natural Bottles | 0.6% | 0.1% | 174 | 27 | Mattresses | 0.0% | 0.0% | - | - |
| HDPE Colored Bottles | 0.6% | 0.1% | 176 | 30 | Small Appliances | 1.6% | 1.7% | 473 | 519 |
| PP Bottles | 0.0% | 0.0% | 13 | 4 | Fluorescent Tubes and CFLs | 0.0% | 0.0% | 0 | 0 |
| Other Plastic Bottles | 0.0% | 0.0% | 10 | 5 | LED Lighting | 0.0% | 0.0% | - | - |
| PET Non-Bottle Packaging | 0.9% | 0.1% | 260 | 39 | Rechargeable Batteries | 0.0% | 0.0% | 1 | 2 |
| HDPE Non-Bottle Packaging | 0.6% | 0.8% | 190 | 241 | Other Dry-cell Batteries | 0.0% | 0.0% | 7 | 4 |
| PP Non-Bottle Packaging | 0.8% | 0.2% | 256 | 51 | Wet-cell Batteries | 0.0% | 0.0% | - | - |
| Other Non-Bottle Plastic Packaging | 0.3% | 0.1% | 104 | 18 | E-Cycle WA Electronics | 0.0% | 0.0% | 3 | 3 |
| Compostable Food Service Plastic Utensils | 0.0% | 0.0% | 2 | 1 | Non-E-Cycle WA Electronics | 0.1% | 0.1% | 37 | 25 |
| Compostable Food Service Plastic Packaging | 0.1% | 0.0% | 18 | 8 | C&D | 1.2% | 0.7% | 363 | 204 |
| Non-Comp Food Service Plastic Utensils | 0.0% | 0.0% | 6 | 1 | Clean Dimension Lumber | 0.1% | 0.1% | 35 | 21 |
| Non-Comp Food Service Plastic Packaging | 0.3% | 0.1% | 82 | 19 | Clean Engineered Wood | 0.1% | 0.1% | 36 | 28 |
| Takeout and Retail Plastic Bags | 0.3% | 0.1% | 76 | 16 | Other Untreated Wood | 0.0% | 0.0% | 6 | 6 |
| Other Clean PE Film | 0.4% | 0.1% | 114 | 18 | Crates or Boxes or Pallets | 0.0% | 0.0% | 1 | 1 |
| Stretch Wrap | 0.1% | 0.1% | 21 | 24 | New Painted Wood | 0.0% | 0.0% | 15 | 8 |
| Other Plastic Film | 0.8% | 0.1% | 231 | 43 | Old Painted Wood | 0.0% | 0.0% | 5 | 5 |
| Mailers | 0.1% | 0.0% | 39 | 10 | Creosote-treated Wood | 0.0% | 0.0% | - | - |
| Pouches | 0.0% | 0.0% | 10 | 4 | Other Treated Wood | 0.0% | 0.0% | 7 | 10 |
| Compostable Plastic Bags | 0.0% | 0.0% | 0 | 0 | Contaminated Wood | 0.6% | 0.6% | 169 | 168 |
| Plastic Garbage Bags | 0.3% | 0.1% | 96 | 24 | New Gypsum Scrap | 0.0% | 0.0% | - | - |
| EPS Food-grade | 0.0% | 0.0% | 13 | 5 | Demo Gypsum Scrap | 0.0% | 0.0% | 0 | 0 |
| Rigid Polystyrene Foam Insulation | 0.0% | 0.0% | - | - | Carpet | 0.0% | 0.0% | 5 | 7 |
| EPS Non-food Grade | 0.1% | 0.0% | 44 | 13 | Felt Carpet Pad | 0.1% | 0.2% | 35 | 56 |
| Large Durable Plastic Products | 0.1% | 0.1% | 33 | 19 | Fiberglass Insulation | 0.0% | 0.0% | 2 | 2 |
| Small Durable Plastic Products | 0.4% | 0.1% | 129 | 21 | Rock or Concrete or Brick | 0.0% | 0.0% | 13 | 13 |
| Plastic or Other Materials | 0.3% | 0.1% | 86 | 42 | Ceramics | 0.1% | 0.1% | 32 | 20 |
| GLASS | 21.6% | 2.2% | 6,554 | 682 | Asphaltic Roofing | 0.0% | 0.0% | - | - |
| Clear Beverage Glass Bottles | 5.9% | 0.9% | 1,776 | 276 | Other Construction Debris | 0.0% | 0.0% | 2 | 2 |
| Green Beverage Glass Bottles | 5.7% | 1.0% | 1,730 | 290 | Liquid Latex Paints | 0.0% | 0.0% | - | - |
| Brown Beverage Glass Bottles | 3.1% | 0.8% | 954 | 247 | HAZARDOUS WASTE | 0.5% | 0.5% | 152 | 143 |
| Container Glass | 1.5% | 0.2% | 443 | 67 | Oil-based Paints | 0.0% | 0.0% | - | - |
| Other Glass | 0.3% | 0.1% | 80 | 28 | Other Potentially Harmful Wastes | 0.1% | 0.1% | 25 | 22 |
| Mixed Cullet | 5.2% | 0.8% | 1,572 | 251 | Medical Waste | 0.3% | 0.5% | 99 | 138 |
| METAL | 5.3% | 0.6% | 1,610 | 172 | Non-Caustic Cleaners or Chemicals | 0.0% | 0.0% | 5 | 4 |
| Aluminum Cans | 2.0% | 0.2% | 607 | 70 | Pharmaceuticals and Medications | 0.0% | 0.0% | 2 | 2 |
| Aluminum Foil or Containers | 0.1% | 0.0% | 41 | 12 | Vitamins and Supplements | 0.0% | 0.0% | 0 | 0 |
| Other Nonferrous Metal | 0.1% | 0.0% | 20 | 7 | Personal Care or Cosmetics | 0.1% | 0.1% | 21 | 17 |
| Other Aluminum | 0.1% | 0.1% | 40 | 26 | FINES AND MISC | 1.3% | 0.2% | 402 | 60 |
| Empty Aerosol Cans | 0.1% | 0.0% | 25 | 11 | Sand, Soil or Dirt | 0.0% | 0.0% | 1 | 1 |
| Steel Food Cans | 1.4% | 0.3% | 413 | 78 | Non-distinct Fines | 1.1% | 0.2% | 323 | 56 |
| Other Ferrous Metal | 1.1% | 0.5% | 346 | 147 | Misc Organics | 0.1% | 0.1% | 45 | 20 |
| Mixed Metals or Materials | 0.4% | 0.1% | 117 | 33 | Misc Inorganics | 0.1% | 0.0% | 16 | 6 |
| Metal Oil Filters | 0.0% | 0.0% | - | - | PPE | 0.1% | 0.0% | 17 | 7 |
| Estimated Total | 100% | | 30,318 | | | | | | |
| Sample Count | | | | 100 | | | | | |

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

Table 27: Composition – Garbage – Spring

| Material | Est. Percent | + / - | Est. Tons | Tons +/- | Material | Est. Percent | + / - | Est. Tons | Tons +/- |
|--------------------------------------------|--------------|-------------|---------------|------------|-----------------------------------|--------------|-------------|--------------|--------------|
| PAPER | 19.5% | 1.6% | 5,631 | 450 | COMPOSTABLE ORGANICS | 21.2% | 3.1% | 6,138 | 906 |
| Newspaper | 0.2% | 0.1% | 62 | 38 | Leaves and Grass | 0.0% | 0.0% | - | - |
| Plain OCC or Kraft Paper | 1.5% | 0.5% | 447 | 130 | Prunings | 0.7% | 0.5% | 194 | 141 |
| Grocery or Shopping Bags | 1.3% | 0.4% | 386 | 109 | Fats, Oils, and Grease | 0.0% | 0.0% | - | - |
| Paper Packaging | 1.7% | 0.3% | 486 | 93 | Edible Food Scraps - Packaged | 9.5% | 2.2% | 2,747 | 643 |
| Paper Products | 2.8% | 0.7% | 809 | 214 | Edible Food Scraps - Non-Packaged | 3.4% | 1.5% | 978 | 439 |
| Compostable or Soiled Paper Products | 8.4% | 0.9% | 2,421 | 258 | Non-Edible Food Scraps | 7.6% | 1.4% | 2,200 | 416 |
| Compostable Food Service Paper Packaging | 1.4% | 0.9% | 401 | 262 | Other Compostable Organics | 0.1% | 0.0% | 18 | 9 |
| Non-Comp Food Service Paper Packaging | 0.9% | 0.2% | 255 | 56 | OTHER ORGANICS | 23.1% | 3.5% | 6,677 | 1,010 |
| Waxed OCC or Kraft Paper | 0.0% | 0.0% | - | - | Textiles | 3.4% | 1.5% | 970 | 425 |
| Shredded Paper | 0.0% | 0.0% | - | - | Mixed Textiles | 3.1% | 0.9% | 897 | 269 |
| Aseptic Containers | 0.1% | 0.0% | 34 | 12 | Disposable Diapers | 7.5% | 1.7% | 2,183 | 505 |
| Gable Top Containers | 0.1% | 0.0% | 41 | 14 | Animal By-products | 8.8% | 2.7% | 2,539 | 786 |
| Other Polycoated Containers | 0.1% | 0.0% | 35 | 12 | Rubber Products | 0.3% | 0.2% | 88 | 50 |
| Mixed or Other Paper | 0.9% | 0.2% | 255 | 53 | Tires | 0.0% | 0.0% | - | - |
| PLASTIC | 16.5% | 1.5% | 4,770 | 441 | FURNITURE AND ELECTRONICS | 1.3% | 1.4% | 387 | 398 |
| PET Bottles | 0.7% | 0.2% | 213 | 49 | Furniture | 0.0% | 0.0% | - | - |
| HDPE Natural Bottles | 0.2% | 0.1% | 68 | 17 | Mattresses | 0.0% | 0.0% | - | - |
| HDPE Colored Bottles | 0.5% | 0.1% | 135 | 37 | Small Appliances | 0.0% | 0.0% | - | - |
| PP Bottles | 0.1% | 0.0% | 19 | 8 | Fluorescent Tubes and CFLs | 0.0% | 0.0% | 5 | 8 |
| Other Plastic Bottles | 0.0% | 0.0% | 1 | 1 | LED Lighting | 0.0% | 0.0% | 3 | 2 |
| PET Non-Bottle Packaging | 0.6% | 0.2% | 163 | 47 | Rechargeable Batteries | 0.0% | 0.0% | - | - |
| HDPE Non-Bottle Packaging | 0.1% | 0.1% | 20 | 17 | Other Dry-cell Batteries | 0.1% | 0.0% | 20 | 14 |
| PP Non-Bottle Packaging | 1.2% | 0.2% | 352 | 57 | Wet-cell Batteries | 0.8% | 1.1% | 246 | 316 |
| Other Non-Bottle Plastic Packaging | 0.5% | 0.1% | 148 | 29 | E-Cycle WA Electronics | 0.1% | 0.1% | 38 | 37 |
| Compostable Food Service Plastic Utensils | 0.0% | 0.0% | 4 | 2 | Non-E-Cycle WA Electronics | 0.3% | 0.2% | 76 | 65 |
| Compostable Food Service Plastic Packaging | 0.1% | 0.0% | 16 | 9 | C&D | 5.1% | 1.8% | 1,474 | 507 |
| Non-Comp Food Service Plastic Utensils | 0.0% | 0.0% | 8 | 3 | Clean Dimension Lumber | 0.0% | 0.0% | - | - |
| Non-Comp Food Service Plastic Packaging | 0.4% | 0.6% | 118 | 171 | Clean Engineered Wood | 0.1% | 0.1% | 28 | 27 |
| Takeout and Retail Plastic Bags | 0.3% | 0.1% | 79 | 19 | Other Untreated Wood | 0.0% | 0.0% | - | - |
| Other Clean PE Film | 0.2% | 0.1% | 57 | 38 | Crates or Boxes or Pallets | 0.0% | 0.0% | - | - |
| Stretch Wrap | 0.0% | 0.0% | - | - | New Painted Wood | 2.4% | 1.7% | 696 | 480 |
| Other Plastic Film | 5.7% | 0.4% | 1,649 | 129 | Old Painted Wood | 0.0% | 0.0% | - | - |
| Mailers | 0.1% | 0.0% | 26 | 9 | Creosote-treated Wood | 0.0% | 0.0% | - | - |
| Pouches | 0.1% | 0.0% | 18 | 5 | Other Treated Wood | 0.6% | 0.8% | 185 | 237 |
| Compostable Plastic Bags | 0.1% | 0.0% | 19 | 12 | Contaminated Wood | 0.1% | 0.1% | 29 | 22 |
| Plastic Garbage Bags | 2.1% | 0.4% | 611 | 120 | New Gypsum Scrap | 0.0% | 0.0% | - | - |
| EPS Food-grade | 0.3% | 0.1% | 83 | 27 | Demo Gypsum Scrap | 0.1% | 0.2% | 40 | 51 |
| Rigid Polystyrene Foam Insulation | 0.0% | 0.0% | - | - | Carpet | 0.0% | 0.0% | - | - |
| EPS Non-food Grade | 0.4% | 0.2% | 116 | 44 | Felt Carpet Pad | 0.0% | 0.0% | - | - |
| Large Durable Plastic Products | 0.4% | 0.5% | 116 | 131 | Fiberglass Insulation | 0.0% | 0.0% | - | - |
| Small Durable Plastic Products | 0.9% | 0.3% | 266 | 73 | Rock or Concrete or Brick | 0.4% | 0.5% | 116 | 148 |
| Plastic or Other Materials | 1.6% | 0.9% | 465 | 252 | Ceramics | 0.4% | 0.2% | 115 | 59 |
| GLASS | 5.2% | 0.9% | 1,512 | 266 | Asphaltic Roofing | 0.0% | 0.0% | 0 | 1 |
| Clear Beverage Glass Bottles | 0.9% | 0.2% | 252 | 72 | Other Construction Debris | 0.9% | 0.7% | 264 | 216 |
| Green Beverage Glass Bottles | 1.1% | 1.1% | 312 | 329 | Liquid Latex Paints | 0.0% | 0.0% | - | - |
| Brown Beverage Glass Bottles | 0.2% | 0.1% | 55 | 20 | HAZARDOUS WASTE | 1.3% | 1.0% | 386 | 292 |
| Container Glass | 0.2% | 0.2% | 68 | 50 | Oil-based Paints | 0.4% | 0.6% | 128 | 185 |
| Other Glass | 0.5% | 0.2% | 139 | 62 | Other Potentially Harmful Wastes | 0.0% | 0.0% | 7 | 11 |
| Mixed Cullet | 2.4% | 0.6% | 686 | 177 | Medical Waste | 0.6% | 0.5% | 178 | 136 |
| METAL | 3.6% | 1.3% | 1,027 | 368 | Non-Caustic Cleaners or Chemicals | 0.0% | 0.0% | 2 | 2 |
| Aluminum Cans | 0.2% | 0.0% | 58 | 11 | Pharmaceuticals and Medications | 0.0% | 0.0% | 9 | 11 |
| Aluminum Foil or Containers | 0.3% | 0.1% | 80 | 29 | Vitamins and Supplements | 0.1% | 0.1% | 38 | 31 |
| Other Nonferrous Metal | 0.0% | 0.0% | 0 | 1 | Personal Care or Cosmetics | 0.1% | 0.1% | 23 | 20 |
| Other Aluminum | 0.0% | 0.0% | 3 | 3 | FINES AND MISC | 3.2% | 1.5% | 932 | 432 |
| Empty Aerosol Cans | 0.1% | 0.1% | 30 | 16 | Sand, Soil or Dirt | 0.5% | 0.6% | 153 | 168 |
| Steel Food Cans | 0.4% | 0.1% | 112 | 28 | Non-distinct Fines | 0.2% | 0.1% | 70 | 18 |
| Other Ferrous Metal | 1.1% | 0.4% | 311 | 106 | Misc Organics | 2.0% | 1.0% | 566 | 295 |
| Mixed Metals or Materials | 1.5% | 0.8% | 434 | 227 | Misc Inorganics | 0.5% | 0.3% | 142 | 75 |
| Metal Oil Filters | 0.0% | 0.0% | - | - | PPE | 0.0% | 0.0% | - | - |
| Estimated Total | 100% | | 28,934 | | | | | | |
| Sample Count | | | 22 | | | | | | |

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

Table 28: Composition – Recycling – Spring

| Material | Est. Percent | + / - | Est. Tons | Tons +/- | Material | Est. Percent | + / - | Est. Tons | Tons +/- |
|--------------------------------------------|--------------|-------------|---------------|--------------|-----------------------------------|--------------|-------------|------------|------------|
| PAPER | 52.6% | 5.6% | 12,103 | 1,286 | COMPOSTABLE ORGANICS | 1.5% | 0.9% | 339 | 205 |
| Newspaper | 4.3% | 1.0% | 981 | 234 | Leaves and Grass | 0.0% | 0.0% | - | - |
| Plain OCC or Kraft Paper | 19.4% | 4.2% | 4,454 | 974 | Prunings | 0.0% | 0.0% | 3 | 4 |
| Grocery or Shopping Bags | 3.7% | 0.6% | 842 | 138 | Fats, Oils, and Grease | 0.5% | 0.5% | 105 | 123 |
| Paper Packaging | 7.5% | 1.2% | 1,721 | 267 | Edible Food Scraps - Packaged | 0.7% | 0.4% | 170 | 83 |
| Paper Products | 13.9% | 1.8% | 3,186 | 424 | Edible Food Scraps - Non-Packaged | 0.1% | 0.1% | 16 | 16 |
| Compostable or Soiled Paper Products | 0.4% | 0.1% | 84 | 17 | Non-Edible Food Scraps | 0.2% | 0.0% | 40 | 11 |
| Compostable Food Service Paper Packaging | 0.3% | 0.1% | 72 | 16 | Other Compostable Organics | 0.0% | 0.0% | 5 | 4 |
| Non-Comp Food Service Paper Packaging | 0.3% | 0.0% | 67 | 10 | OTHER ORGANICS | 0.5% | 0.1% | 104 | 26 |
| Waxed OCC or Kraft Paper | 0.6% | 0.5% | 139 | 123 | Textiles | 0.2% | 0.1% | 46 | 12 |
| Shredded Paper | 0.1% | 0.1% | 20 | 19 | Mixed Textiles | 0.1% | 0.0% | 12 | 8 |
| Aseptic Containers | 0.4% | 0.1% | 89 | 22 | Disposable Diapers | 0.1% | 0.0% | 27 | 6 |
| Gable Top Containers | 0.7% | 0.1% | 157 | 22 | Animal By-products | 0.0% | 0.0% | 2 | 3 |
| Other Polycoated Containers | 0.0% | 0.0% | 9 | 2 | Rubber Products | 0.1% | 0.1% | 17 | 23 |
| Mixed or Other Paper | 1.2% | 0.4% | 283 | 89 | Tires | 0.0% | 0.0% | - | - |
| PLASTIC | 11.7% | 1.2% | 2,695 | 269 | FURNITURE AND ELECTRONICS | 2.0% | 2.3% | 451 | 518 |
| PET Bottles | 3.0% | 0.5% | 697 | 108 | Furniture | 0.0% | 0.0% | - | - |
| HDPE Natural Bottles | 0.7% | 0.1% | 163 | 31 | Mattresses | 0.0% | 0.0% | - | - |
| HDPE Colored Bottles | 0.7% | 0.1% | 165 | 29 | Small Appliances | 1.9% | 2.3% | 448 | 518 |
| PP Bottles | 0.1% | 0.0% | 18 | 8 | Fluorescent Tubes and CFLs | 0.0% | 0.0% | 0 | 1 |
| Other Plastic Bottles | 0.0% | 0.0% | 6 | 3 | LED Lighting | 0.0% | 0.0% | - | - |
| PET Non-Bottle Packaging | 1.4% | 0.2% | 327 | 39 | Rechargeable Batteries | 0.0% | 0.0% | - | - |
| HDPE Non-Bottle Packaging | 0.9% | 1.0% | 196 | 241 | Other Dry-cell Batteries | 0.0% | 0.0% | 3 | 2 |
| PP Non-Bottle Packaging | 1.2% | 0.2% | 265 | 43 | Wet-cell Batteries | 0.0% | 0.0% | - | - |
| Other Non-Bottle Plastic Packaging | 0.3% | 0.1% | 77 | 14 | E-Cycle WA Electronics | 0.0% | 0.0% | - | - |
| Compostable Food Service Plastic Utensils | 0.0% | 0.0% | 0 | 0 | Non-E-Cycle WA Electronics | 0.0% | 0.0% | - | - |
| Compostable Food Service Plastic Packaging | 0.1% | 0.1% | 22 | 13 | C&D | 0.2% | 0.1% | 45 | 19 |
| Non-Comp Food Service Plastic Utensils | 0.1% | 0.1% | 23 | 28 | Clean Dimension Lumber | 0.0% | 0.0% | 7 | 10 |
| Non-Comp Food Service Plastic Packaging | 0.3% | 0.1% | 79 | 15 | Clean Engineered Wood | 0.0% | 0.0% | 6 | 7 |
| Takeout and Retail Plastic Bags | 0.1% | 0.0% | 26 | 5 | Other Untreated Wood | 0.0% | 0.0% | - | - |
| Other Clean PE Film | 0.2% | 0.0% | 41 | 9 | Crates or Boxes or Pallets | 0.0% | 0.0% | - | - |
| Stretch Wrap | 0.0% | 0.0% | - | - | New Painted Wood | 0.0% | 0.0% | 3 | 4 |
| Other Plastic Film | 0.9% | 0.3% | 205 | 66 | Old Painted Wood | 0.0% | 0.0% | - | - |
| Mailers | 0.1% | 0.0% | 33 | 8 | Creosote-treated Wood | 0.0% | 0.0% | - | - |
| Pouches | 0.0% | 0.0% | 5 | 4 | Other Treated Wood | 0.0% | 0.0% | - | - |
| Compostable Plastic Bags | 0.0% | 0.0% | 0 | 0 | Contaminated Wood | 0.0% | 0.0% | - | - |
| Plastic Garbage Bags | 0.2% | 0.1% | 53 | 23 | New Gypsum Scrap | 0.0% | 0.0% | - | - |
| EPS Food-grade | 0.0% | 0.0% | 3 | 1 | Demo Gypsum Scrap | 0.0% | 0.0% | - | - |
| Rigid Polystyrene Foam Insulation | 0.0% | 0.0% | - | - | Carpet | 0.0% | 0.0% | - | - |
| EPS Non-food Grade | 0.1% | 0.0% | 20 | 9 | Felt Carpet Pad | 0.0% | 0.0% | - | - |
| Large Durable Plastic Products | 0.2% | 0.2% | 57 | 49 | Fiberglass Insulation | 0.1% | 0.1% | 23 | 17 |
| Small Durable Plastic Products | 0.7% | 0.2% | 161 | 50 | Rock or Concrete or Brick | 0.0% | 0.0% | - | - |
| Plastic or Other Materials | 0.2% | 0.2% | 50 | 42 | Ceramics | 0.0% | 0.0% | 5 | 8 |
| GLASS | 23.1% | 2.5% | 5,303 | 568 | Asphaltic Roofing | 0.0% | 0.0% | - | - |
| Clear Beverage Glass Bottles | 5.9% | 1.2% | 1,357 | 280 | Other Construction Debris | 0.0% | 0.0% | 1 | 1 |
| Green Beverage Glass Bottles | 6.8% | 1.0% | 1,557 | 240 | Liquid Latex Paints | 0.0% | 0.0% | - | - |
| Brown Beverage Glass Bottles | 2.9% | 0.8% | 663 | 191 | HAZARDOUS WASTE | 0.0% | 0.0% | 7 | 5 |
| Container Glass | 2.0% | 0.4% | 453 | 95 | Oil-based Paints | 0.0% | 0.0% | - | - |
| Other Glass | 0.2% | 0.1% | 48 | 20 | Other Potentially Harmful Wastes | 0.0% | 0.0% | 1 | 2 |
| Mixed Cullet | 5.3% | 1.2% | 1,225 | 281 | Medical Waste | 0.0% | 0.0% | - | - |
| METAL | 7.6% | 1.8% | 1,750 | 421 | Non-Caustic Cleaners or Chemicals | 0.0% | 0.0% | - | - |
| Aluminum Cans | 2.6% | 0.3% | 590 | 74 | Pharmaceuticals and Medications | 0.0% | 0.0% | 4 | 4 |
| Aluminum Foil or Containers | 0.2% | 0.1% | 44 | 13 | Vitamins and Supplements | 0.0% | 0.0% | - | - |
| Other Nonferrous Metal | 0.0% | 0.0% | 4 | 3 | Personal Care or Cosmetics | 0.0% | 0.0% | 3 | 1 |
| Other Aluminum | 0.1% | 0.1% | 28 | 24 | FINES AND MISC | 0.8% | 0.2% | 193 | 52 |
| Empty Aerosol Cans | 0.1% | 0.0% | 16 | 11 | Sand, Soil or Dirt | 0.0% | 0.0% | - | - |
| Steel Food Cans | 1.6% | 0.3% | 376 | 73 | Non-distinct Fines | 0.7% | 0.2% | 150 | 49 |
| Other Ferrous Metal | 2.6% | 1.6% | 601 | 370 | Misc Organics | 0.2% | 0.1% | 36 | 25 |
| Mixed Metals or Materials | 0.4% | 0.2% | 91 | 45 | Misc Inorganics | 0.0% | 0.0% | 4 | 2 |
| Metal Oil Filters | 0.0% | 0.0% | - | - | PPE | 0.0% | 0.0% | 3 | 1 |
| Estimated Total | 100% | | 22,989 | | | | | | |
| Sample Count | | | 30 | | | | | | |

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

Table 29: Composition – Garbage – Summer

| Material | Est. Percent | +/- | Est. Tons | Tons +/- | Material | Est. Percent | +/- | Est. Tons | Tons +/- |
|--------------------------------------------|--------------|-------------|---------------|------------|-----------------------------------|--------------|-------------|--------------|------------|
| PAPER | 20.1% | 1.1% | 5,763 | 318 | COMPOSTABLE ORGANICS | 22.8% | 1.9% | 6,517 | 536 |
| Newspaper | 0.3% | 0.1% | 95 | 39 | Leaves and Grass | 1.1% | 0.9% | 322 | 262 |
| Plain OCC or Kraft Paper | 1.5% | 0.3% | 424 | 99 | Prunings | 0.2% | 0.1% | 48 | 39 |
| Grocery or Shopping Bags | 1.4% | 0.2% | 394 | 54 | Fats, Oils, and Grease | 0.0% | 0.0% | 6 | 8 |
| Paper Packaging | 1.4% | 0.2% | 398 | 53 | Edible Food Scraps - Packaged | 11.7% | 1.0% | 3,342 | 284 |
| Paper Products | 2.1% | 0.5% | 611 | 132 | Edible Food Scraps - Non-Packaged | 4.8% | 0.7% | 1,371 | 207 |
| Compostable or Soiled Paper Products | 9.6% | 0.9% | 2,735 | 261 | Non-Edible Food Scraps | 4.9% | 0.8% | 1,402 | 221 |
| Compostable Food Service Paper Packaging | 0.9% | 0.2% | 272 | 55 | Other Compostable Organics | 0.1% | 0.0% | 25 | 7 |
| Non-Comp Food Service Paper Packaging | 0.9% | 0.1% | 260 | 36 | OTHER ORGANICS | 20.0% | 2.1% | 5,726 | 595 |
| Waxed OCC or Kraft Paper | 0.0% | 0.0% | - | - | Textiles | 3.0% | 0.8% | 866 | 232 |
| Shredded Paper | 0.0% | 0.0% | 6 | 9 | Mixed Textiles | 2.3% | 0.5% | 660 | 157 |
| Aseptic Containers | 0.2% | 0.0% | 48 | 10 | Disposable Diapers | 6.4% | 1.0% | 1,825 | 297 |
| Gable Top Containers | 0.2% | 0.1% | 53 | 20 | Animal By-products | 7.4% | 1.2% | 2,114 | 354 |
| Other Polyc coated Containers | 0.2% | 0.0% | 44 | 11 | Rubber Products | 0.8% | 0.5% | 239 | 147 |
| Mixed or Other Paper | 1.5% | 0.5% | 423 | 153 | Tires | 0.1% | 0.1% | 21 | 24 |
| PLASTIC | 15.7% | 0.9% | 4,492 | 264 | FURNITURE AND ELECTRONICS | 0.3% | 0.1% | 75 | 34 |
| PET Bottles | 0.8% | 0.1% | 233 | 32 | Furniture | 0.0% | 0.0% | - | - |
| HDPE Natural Bottles | 0.2% | 0.0% | 45 | 10 | Mattresses | 0.0% | 0.0% | - | - |
| HDPE Colored Bottles | 0.3% | 0.0% | 91 | 14 | Small Appliances | 0.0% | 0.0% | 6 | 9 |
| PP Bottles | 0.0% | 0.0% | 7 | 2 | Fluorescent Tubes and CFLs | 0.0% | 0.0% | 1 | 1 |
| Other Plastic Bottles | 0.0% | 0.0% | 3 | 3 | LED Lighting | 0.0% | 0.0% | 3 | 2 |
| PET Non-Bottle Packaging | 0.5% | 0.1% | 142 | 19 | Rechargeable Batteries | 0.0% | 0.0% | - | - |
| HDPE Non-Bottle Packaging | 0.1% | 0.0% | 23 | 7 | Other Dry-cell Batteries | 0.0% | 0.0% | 12 | 5 |
| PP Non-Bottle Packaging | 0.8% | 0.1% | 222 | 31 | Wet-cell Batteries | 0.0% | 0.0% | - | - |
| Other Non-Bottle Plastic Packaging | 0.4% | 0.1% | 123 | 16 | E-Cycle WA Electronics | 0.1% | 0.1% | 20 | 22 |
| Compostable Food Service Plastic Utensils | 0.0% | 0.0% | 3 | 1 | Non-E-Cycle WA Electronics | 0.1% | 0.1% | 33 | 27 |
| Compostable Food Service Plastic Packaging | 0.0% | 0.0% | 12 | 4 | C&D | 7.2% | 1.8% | 2,071 | 513 |
| Non-Comp Food Service Plastic Packaging | 0.0% | 0.0% | 14 | 4 | Clean Dimension Lumber | 1.6% | 0.9% | 465 | 261 |
| Non-Comp Food Service Plastic Packaging | 0.7% | 0.1% | 207 | 24 | Clean Engineered Wood | 0.4% | 0.3% | 127 | 80 |
| Takeout and Retail Plastic Bags | 0.5% | 0.1% | 136 | 32 | Other Untreated Wood | 0.1% | 0.1% | 20 | 21 |
| Other Clean PE Film | 0.4% | 0.1% | 125 | 28 | Crates or Boxes or Pallets | 0.0% | 0.0% | - | - |
| Stretch Wrap | 0.1% | 0.1% | 15 | 24 | New Painted Wood | 0.7% | 0.4% | 199 | 119 |
| Other Plastic Film | 5.5% | 0.4% | 1,568 | 115 | Old Painted Wood | 0.0% | 0.0% | - | - |
| Mailers | 0.3% | 0.0% | 75 | 12 | Creosote-treated Wood | 0.0% | 0.0% | - | - |
| Pouches | 0.1% | 0.0% | 30 | 7 | Other Treated Wood | 0.4% | 0.4% | 116 | 117 |
| Compostable Plastic Bags | 0.2% | 0.1% | 44 | 42 | Contaminated Wood | 0.3% | 0.2% | 78 | 55 |
| Plastic Garbage Bags | 1.4% | 0.2% | 412 | 57 | New Gypsum Scrap | 0.0% | 0.0% | - | - |
| EPS Food-grade | 0.4% | 0.1% | 102 | 21 | Demo Gypsum Scrap | 0.2% | 0.1% | 52 | 42 |
| Rigid Polystyrene Foam Insulation | 0.0% | 0.0% | - | - | Carpet | 0.5% | 0.4% | 132 | 128 |
| EPS Non-food Grade | 0.6% | 0.1% | 158 | 31 | Felt Carpet Pad | 0.1% | 0.1% | 25 | 39 |
| Large Durable Plastic Products | 0.3% | 0.1% | 90 | 40 | Fiberglass Insulation | 0.0% | 0.0% | 8 | 12 |
| Small Durable Plastic Products | 1.3% | 0.4% | 367 | 120 | Rock or Concrete or Brick | 1.2% | 0.6% | 345 | 185 |
| Plastic or Other Materials | 0.8% | 0.3% | 242 | 80 | Ceramics | 0.8% | 0.7% | 218 | 198 |
| GLASS | 5.8% | 0.6% | 1,656 | 174 | Asphaltic Roofing | 0.1% | 0.2% | 29 | 43 |
| Clear Beverage Glass Bottles | 0.7% | 0.1% | 206 | 39 | Other Construction Debris | 0.8% | 0.8% | 217 | 238 |
| Green Beverage Glass Bottles | 0.4% | 0.1% | 111 | 29 | Liquid Latex Paints | 0.1% | 0.1% | 41 | 36 |
| Brown Beverage Glass Bottles | 0.3% | 0.1% | 80 | 36 | HAZARDOUS WASTE | 1.3% | 0.9% | 383 | 246 |
| Container Glass | 0.4% | 0.2% | 126 | 52 | Oil-based Paints | 0.0% | 0.0% | - | - |
| Other Glass | 0.2% | 0.1% | 71 | 25 | Other Potentially Harmful Wastes | 0.1% | 0.0% | 17 | 10 |
| Mixed Cullet | 3.7% | 0.5% | 1,062 | 156 | Medical Waste | 0.9% | 0.8% | 268 | 226 |
| METAL | 4.4% | 0.6% | 1,266 | 169 | Non-Caustic Cleaners or Chemicals | 0.1% | 0.0% | 15 | 9 |
| Aluminum Cans | 0.4% | 0.0% | 106 | 14 | Pharmaceuticals and Medications | 0.0% | 0.0% | 4 | 2 |
| Aluminum Foil or Containers | 0.4% | 0.1% | 118 | 15 | Vitamins and Supplements | 0.0% | 0.0% | 4 | 6 |
| Other Nonferrous Metal | 0.0% | 0.0% | 1 | 1 | Personal Care or Cosmetics | 0.3% | 0.1% | 75 | 26 |
| Other Aluminum | 0.0% | 0.0% | - | - | FINES AND MISC | 2.4% | 0.4% | 684 | 126 |
| Empty Aerosol Cans | 0.2% | 0.0% | 47 | 9 | Sand, Soil or Dirt | 0.4% | 0.3% | 119 | 89 |
| Steel Food Cans | 0.6% | 0.1% | 177 | 31 | Non-distinct Fines | 0.4% | 0.1% | 109 | 16 |
| Other Ferrous Metal | 1.3% | 0.4% | 365 | 103 | Misc Organics | 0.8% | 0.2% | 241 | 63 |
| Mixed Metals or Materials | 1.6% | 0.4% | 445 | 101 | Misc Inorganics | 0.4% | 0.1% | 126 | 36 |
| Metal Oil Filters | 0.0% | 0.0% | 7 | 7 | PPE | 0.3% | 0.1% | 90 | 21 |
| Estimated Total | 100% | | 28,631 | | | | | | |
| Sample Count | | | 60 | | | | | | |

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

Table 30: Composition – Recycling – Summer

| Material | Est. Percent | +/- | Est. Tons | Tons +/- | Material | Est. Percent | +/- | Est. Tons | Tons +/- |
|--------------------------------------------|--------------|-------------|---------------|------------|-----------------------------------|--------------|-------------|------------|------------|
| PAPER | 48.1% | 2.7% | 10,780 | 599 | COMPOSTABLE ORGANICS | 1.4% | 0.5% | 319 | 121 |
| Newspaper | 4.1% | 0.7% | 923 | 157 | Leaves and Grass | 0.0% | 0.0% | 0 | 1 |
| Plain OCC or Kraft Paper | 18.1% | 1.4% | 4,054 | 318 | Prunings | 0.0% | 0.0% | 3 | 4 |
| Grocery or Shopping Bags | 3.1% | 0.3% | 686 | 77 | Fats, Oils, and Grease | 0.0% | 0.0% | - | - |
| Paper Packaging | 5.8% | 0.4% | 1,290 | 101 | Edible Food Scraps - Packaged | 0.6% | 0.3% | 139 | 61 |
| Paper Products | 14.5% | 2.6% | 3,243 | 591 | Edible Food Scraps - Non-Packaged | 0.2% | 0.1% | 42 | 32 |
| Compostable or Soiled Paper Products | 0.3% | 0.1% | 75 | 29 | Non-Edible Food Scraps | 0.6% | 0.4% | 133 | 91 |
| Compostable Food Service Paper Packaging | 0.1% | 0.0% | 25 | 9 | Other Compostable Organics | 0.0% | 0.0% | - | - |
| Non-Comp Food Service Paper Packaging | 0.2% | 0.1% | 43 | 26 | OTHER ORGANICS | 1.6% | 0.8% | 356 | 176 |
| Waxed OCC or Kraft Paper | 0.1% | 0.2% | 30 | 35 | Textiles | 0.8% | 0.7% | 177 | 150 |
| Shredded Paper | 0.2% | 0.1% | 50 | 24 | Mixed Textiles | 0.3% | 0.3% | 73 | 58 |
| Aseptic Containers | 0.2% | 0.0% | 36 | 6 | Disposable Diapers | 0.1% | 0.0% | 25 | 11 |
| Gable Top Containers | 0.5% | 0.1% | 115 | 13 | Animal By-products | 0.2% | 0.3% | 52 | 59 |
| Other Polycoated Containers | 0.0% | 0.0% | 8 | 2 | Rubber Products | 0.1% | 0.2% | 27 | 37 |
| Mixed or Other Paper | 0.9% | 0.2% | 202 | 44 | Tires | 0.0% | 0.0% | 1 | 2 |
| PLASTIC | 10.0% | 0.7% | 2,248 | 165 | FURNITURE AND ELECTRONICS | 0.2% | 0.1% | 37 | 28 |
| PET Bottles | 2.8% | 0.3% | 637 | 77 | Furniture | 0.0% | 0.0% | - | - |
| HDPE Natural Bottles | 0.6% | 0.1% | 144 | 23 | Mattresses | 0.0% | 0.0% | - | - |
| HDPE Colored Bottles | 0.7% | 0.1% | 155 | 21 | Small Appliances | 0.0% | 0.0% | 3 | 5 |
| PP Bottles | 0.1% | 0.0% | 13 | 5 | Fluorescent Tubes and CFLs | 0.0% | 0.0% | - | - |
| Other Plastic Bottles | 0.0% | 0.0% | 4 | 3 | LED Lighting | 0.0% | 0.0% | - | - |
| PET Non-Bottle Packaging | 1.2% | 0.1% | 268 | 30 | Rechargeable Batteries | 0.0% | 0.0% | - | - |
| HDPE Non-Bottle Packaging | 0.2% | 0.1% | 39 | 15 | Other Dry-cell Batteries | 0.0% | 0.0% | 3 | 1 |
| PP Non-Bottle Packaging | 1.5% | 0.2% | 333 | 49 | Wet-cell Batteries | 0.0% | 0.0% | - | - |
| Other Non-Bottle Plastic Packaging | 0.4% | 0.1% | 96 | 18 | E-Cycle WA Electronics | 0.0% | 0.0% | - | - |
| Compostable Food Service Plastic Utensils | 0.0% | 0.0% | 1 | 1 | Non-E-Cycle WA Electronics | 0.1% | 0.1% | 31 | 27 |
| Compostable Food Service Plastic Packaging | 0.1% | 0.0% | 11 | 5 | C&D | 1.2% | 0.9% | 259 | 197 |
| Non-Comp Food Service Plastic Utensils | 0.0% | 0.0% | 3 | 2 | Clean Dimension Lumber | 0.1% | 0.1% | 15 | 12 |
| Non-Comp Food Service Plastic Packaging | 0.2% | 0.1% | 38 | 17 | Clean Engineered Wood | 0.1% | 0.1% | 26 | 23 |
| Takeout and Retail Plastic Bags | 0.2% | 0.1% | 40 | 14 | Other Untreated Wood | 0.0% | 0.0% | 5 | 6 |
| Other Clean PE Film | 0.5% | 0.1% | 110 | 24 | Crates or Boxes or Pallets | 0.0% | 0.0% | - | - |
| Stretch Wrap | 0.0% | 0.0% | 7 | 8 | New Painted Wood | 0.0% | 0.0% | 8 | 6 |
| Other Plastic Film | 0.4% | 0.1% | 88 | 23 | Old Painted Wood | 0.0% | 0.0% | - | - |
| Mailers | 0.1% | 0.0% | 20 | 7 | Creosote-treated Wood | 0.0% | 0.0% | - | - |
| Pouches | 0.0% | 0.0% | 5 | 2 | Other Treated Wood | 0.0% | 0.0% | - | - |
| Compostable Plastic Bags | 0.0% | 0.0% | - | - | Contaminated Wood | 0.8% | 0.7% | 172 | 168 |
| Plastic Garbage Bags | 0.1% | 0.0% | 32 | 6 | New Gypsum Scrap | 0.0% | 0.0% | - | - |
| EPS Food-grade | 0.0% | 0.0% | 4 | 1 | Demo Gypsum Scrap | 0.0% | 0.0% | - | - |
| Rigid Polystyrene Foam Insulation | 0.0% | 0.0% | - | - | Carpet | 0.0% | 0.0% | 5 | 7 |
| EPS Non-food Grade | 0.1% | 0.0% | 16 | 7 | Felt Carpet Pad | 0.0% | 0.0% | - | - |
| Large Durable Plastic Products | 0.1% | 0.1% | 19 | 14 | Fiberglass Insulation | 0.0% | 0.0% | - | - |
| Small Durable Plastic Products | 0.5% | 0.1% | 116 | 24 | Rock or Concrete or Brick | 0.0% | 0.1% | 9 | 13 |
| Plastic or Other Materials | 0.2% | 0.1% | 49 | 16 | Ceramics | 0.1% | 0.0% | 21 | 9 |
| GLASS | 29.3% | 2.1% | 6,558 | 462 | Asphaltic Roofing | 0.0% | 0.0% | - | - |
| Clear Beverage Glass Bottles | 7.9% | 0.9% | 1,765 | 192 | Other Construction Debris | 0.0% | 0.0% | - | - |
| Green Beverage Glass Bottles | 7.8% | 1.0% | 1,739 | 221 | Liquid Latex Paints | 0.0% | 0.0% | - | - |
| Brown Beverage Glass Bottles | 3.3% | 0.5% | 735 | 107 | HAZARDOUS WASTE | 0.5% | 0.6% | 117 | 141 |
| Container Glass | 2.1% | 0.3% | 466 | 63 | Oil-based Paints | 0.0% | 0.0% | - | - |
| Other Glass | 0.3% | 0.1% | 76 | 28 | Other Potentially Harmful Wastes | 0.1% | 0.1% | 14 | 18 |
| Mixed Cullet | 7.9% | 1.2% | 1,777 | 258 | Medical Waste | 0.4% | 0.6% | 93 | 138 |
| METAL | 6.8% | 0.8% | 1,532 | 177 | Non-Caustic Cleaners or Chemicals | 0.0% | 0.0% | 5 | 4 |
| Aluminum Cans | 2.8% | 0.3% | 620 | 59 | Pharmaceuticals and Medications | 0.0% | 0.0% | 2 | 2 |
| Aluminum Foil or Containers | 0.2% | 0.0% | 42 | 10 | Vitamins and Supplements | 0.0% | 0.0% | - | - |
| Other Nonferrous Metal | 0.1% | 0.0% | 16 | 7 | Personal Care or Cosmetics | 0.0% | 0.0% | 4 | 6 |
| Other Aluminum | 0.0% | 0.0% | - | - | FINES AND MISC | 1.0% | 0.1% | 213 | 31 |
| Empty Aerosol Cans | 0.0% | 0.0% | 11 | 4 | Sand, Soil or Dirt | 0.0% | 0.0% | - | - |
| Steel Food Cans | 1.6% | 0.1% | 350 | 31 | Non-distinct Fines | 0.8% | 0.1% | 183 | 27 |
| Other Ferrous Metal | 1.8% | 0.8% | 414 | 173 | Misc Organics | 0.0% | 0.0% | 8 | 7 |
| Mixed Metals or Materials | 0.3% | 0.1% | 78 | 31 | Misc Inorganics | 0.1% | 0.1% | 17 | 14 |
| Metal Oil Filters | 0.0% | 0.0% | - | - | PPE | 0.0% | 0.0% | 6 | 3 |
| Estimated Total | 100% | | 22,418 | | | | | | |
| Sample Count | | | 75 | | | | | | |

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

Table 31: Composition – Garbage – Fall

| Material | Est. Percent | +/- | Est. Tons | Tons +/- | Material | Est. Percent | +/- | Est. Tons | Tons +/- |
|--------------------------------------------|--------------|-------------|---------------|------------|-----------------------------------|--------------|-------------|--------------|------------|
| PAPER | 20.1% | 1.1% | 6,271 | 351 | COMPOSTABLE ORGANICS | 19.0% | 1.6% | 5,923 | 483 |
| Newspaper | 0.5% | 0.2% | 155 | 51 | Leaves and Grass | 1.2% | 0.8% | 382 | 260 |
| Plain OCC or Kraft Paper | 1.5% | 0.3% | 454 | 79 | Prunings | 0.1% | 0.1% | 46 | 36 |
| Grocery or Shopping Bags | 1.8% | 0.2% | 568 | 55 | Fats, Oils, and Grease | 0.0% | 0.0% | 11 | 6 |
| Paper Packaging | 1.8% | 0.2% | 550 | 52 | Edible Food Scraps - Packaged | 8.8% | 0.9% | 2,739 | 271 |
| Paper Products | 3.0% | 0.5% | 933 | 165 | Edible Food Scraps - Non-Packaged | 4.0% | 0.6% | 1,257 | 191 |
| Compostable or Soiled Paper Products | 6.9% | 0.5% | 2,137 | 168 | Non-Edible Food Scraps | 4.6% | 0.6% | 1,423 | 175 |
| Compostable Food Service Paper Packaging | 0.9% | 0.1% | 270 | 30 | Other Compostable Organics | 0.2% | 0.0% | 65 | 13 |
| Non-Comp Food Service Paper Packaging | 1.5% | 0.2% | 464 | 66 | OTHER ORGANICS | 22.1% | 1.8% | 6,865 | 574 |
| Waxed OCC or Kraft Paper | 0.0% | 0.0% | 1 | 2 | Textiles | 4.3% | 0.6% | 1,325 | 185 |
| Shredded Paper | 0.0% | 0.0% | 12 | 11 | Mixed Textiles | 1.2% | 0.3% | 361 | 89 |
| Aseptic Containers | 0.2% | 0.0% | 63 | 9 | Disposable Diapers | 5.9% | 0.8% | 1,845 | 253 |
| Gable Top Containers | 0.2% | 0.0% | 72 | 12 | Animal By-products | 10.0% | 1.1% | 3,099 | 356 |
| Other Polycoated Containers | 0.2% | 0.0% | 75 | 12 | Rubber Products | 0.6% | 0.3% | 190 | 82 |
| Mixed or Other Paper | 1.7% | 0.3% | 516 | 88 | Tires | 0.1% | 0.2% | 45 | 54 |
| PLASTIC | 19.2% | 0.9% | 5,989 | 284 | FURNITURE AND ELECTRONICS | 0.8% | 0.6% | 250 | 187 |
| PET Bottles | 1.0% | 0.1% | 319 | 37 | Furniture | 0.0% | 0.0% | 9 | 14 |
| HDPE Natural Bottles | 0.2% | 0.0% | 60 | 13 | Mattresses | 0.1% | 0.1% | 16 | 25 |
| HDPE Colored Bottles | 0.4% | 0.1% | 118 | 29 | Small Appliances | 0.1% | 0.2% | 32 | 51 |
| PP Bottles | 0.0% | 0.0% | 15 | 4 | Fluorescent Tubes and CFLs | 0.0% | 0.0% | 2 | 2 |
| Other Plastic Bottles | 0.0% | 0.0% | 5 | 3 | LED Lighting | 0.0% | 0.0% | - | - |
| PET Non-Bottle Packaging | 0.8% | 0.1% | 254 | 30 | Rechargeable Batteries | 0.0% | 0.0% | - | - |
| HDPE Non-Bottle Packaging | 0.2% | 0.1% | 55 | 17 | Other Dry-cell Batteries | 0.1% | 0.0% | 19 | 5 |
| PP Non-Bottle Packaging | 1.5% | 0.2% | 464 | 76 | Wet-cell Batteries | 0.0% | 0.0% | - | - |
| Other Non-Bottle Plastic Packaging | 0.7% | 0.1% | 208 | 19 | E-Cycle WA Electronics | 0.4% | 0.5% | 139 | 170 |
| Compostable Food Service Plastic Utensils | 0.0% | 0.0% | 10 | 6 | Non-E-Cycle WA Electronics | 0.1% | 0.1% | 34 | 40 |
| Compostable Food Service Plastic Packaging | 0.1% | 0.0% | 34 | 9 | C&D | 4.8% | 0.9% | 1,492 | 269 |
| Non-Comp Food Service Plastic Utensils | 0.1% | 0.0% | 32 | 7 | Clean Dimension Lumber | 0.8% | 0.3% | 255 | 83 |
| Non-Comp Food Service Plastic Packaging | 0.6% | 0.1% | 189 | 32 | Clean Engineered Wood | 0.7% | 0.3% | 215 | 83 |
| Takeout and Retail Plastic Bags | 0.8% | 0.1% | 241 | 26 | Other Untreated Wood | 0.1% | 0.1% | 22 | 22 |
| Other Clean PE Film | 0.5% | 0.1% | 170 | 35 | Crates or Boxes or Pallets | 0.0% | 0.0% | - | - |
| Stretch Wrap | 0.0% | 0.0% | 4 | 4 | New Painted Wood | 0.5% | 0.2% | 147 | 71 |
| Other Plastic Film | 5.3% | 0.4% | 1,649 | 118 | Old Painted Wood | 0.0% | 0.0% | - | - |
| Mailers | 0.3% | 0.0% | 99 | 15 | Creosote-treated Wood | 0.0% | 0.0% | - | - |
| Pouches | 0.2% | 0.0% | 75 | 10 | Other Treated Wood | 0.0% | 0.0% | 6 | 5 |
| Compostable Plastic Bags | 0.1% | 0.0% | 23 | 11 | Contaminated Wood | 0.6% | 0.3% | 185 | 84 |
| Plastic Garbage Bags | 2.3% | 0.2% | 710 | 52 | New Gypsum Scrap | 0.0% | 0.0% | 0 | 0 |
| EPS Food-grade | 0.3% | 0.0% | 95 | 11 | Demo Gypsum Scrap | 0.4% | 0.3% | 111 | 85 |
| Rigid Polystyrene Foam Insulation | 0.0% | 0.0% | - | - | Carpet | 0.4% | 0.2% | 129 | 76 |
| EPS Non-food Grade | 0.9% | 0.3% | 289 | 88 | Felt Carpet Pad | 0.1% | 0.1% | 26 | 27 |
| Large Durable Plastic Products | 0.3% | 0.2% | 95 | 53 | Fiberglass Insulation | 0.1% | 0.0% | 26 | 14 |
| Small Durable Plastic Products | 1.4% | 0.2% | 428 | 71 | Rock or Concrete or Brick | 0.1% | 0.2% | 41 | 48 |
| Plastic or Other Materials | 1.1% | 0.4% | 347 | 125 | Ceramics | 0.3% | 0.1% | 103 | 40 |
| GLASS | 3.7% | 0.5% | 1,166 | 147 | Asphaltic Roofing | 0.2% | 0.2% | 54 | 69 |
| Clear Beverage Glass Bottles | 0.5% | 0.1% | 165 | 46 | Other Construction Debris | 0.4% | 0.3% | 132 | 96 |
| Green Beverage Glass Bottles | 0.3% | 0.1% | 90 | 24 | Liquid Latex Paints | 0.1% | 0.1% | 40 | 27 |
| Brown Beverage Glass Bottles | 0.2% | 0.1% | 72 | 24 | HAZARDOUS WASTE | 0.9% | 0.4% | 285 | 118 |
| Container Glass | 0.6% | 0.1% | 189 | 36 | Oil-based Paints | 0.0% | 0.0% | - | - |
| Other Glass | 0.4% | 0.2% | 124 | 54 | Other Potentially Harmful Wastes | 0.1% | 0.1% | 29 | 16 |
| Mixed Cullet | 1.7% | 0.4% | 527 | 111 | Medical Waste | 0.4% | 0.3% | 124 | 98 |
| METAL | 5.3% | 0.8% | 1,646 | 234 | Non-Caustic Cleaners or Chemicals | 0.0% | 0.0% | 3 | 5 |
| Aluminum Cans | 0.4% | 0.1% | 117 | 16 | Pharmaceuticals and Medications | 0.1% | 0.0% | 17 | 12 |
| Aluminum Foil or Containers | 0.6% | 0.1% | 195 | 25 | Vitamins and Supplements | 0.0% | 0.0% | 1 | 1 |
| Other Nonferrous Metal | 0.0% | 0.0% | 14 | 9 | Personal Care or Cosmetics | 0.4% | 0.1% | 110 | 22 |
| Other Aluminum | 0.3% | 0.1% | 96 | 35 | FINES AND MISC | 4.0% | 0.6% | 1,235 | 188 |
| Empty Aerosol Cans | 0.2% | 0.0% | 51 | 13 | Sand, Soil or Dirt | 0.3% | 0.3% | 100 | 105 |
| Steel Food Cans | 0.7% | 0.1% | 210 | 26 | Non-distinct Fines | 1.7% | 0.4% | 524 | 120 |
| Other Ferrous Metal | 1.1% | 0.3% | 353 | 102 | Misc Organics | 1.0% | 0.3% | 317 | 81 |
| Mixed Metals or Materials | 1.9% | 0.6% | 603 | 201 | Misc Inorganics | 0.5% | 0.1% | 156 | 42 |
| Metal Oil Filters | 0.0% | 0.0% | 7 | 6 | PPE | 0.4% | 0.1% | 138 | 28 |
| Estimated Total | 100% | | 31,122 | | | | | | |
| Sample Count | | | 98 | | | | | | |

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

Table 32: Composition – Recycling – Fall

| Material | Est. Percent | + / - | Est. Tons | Tons +/- | Material | Est. Percent | + / - | Est. Tons | Tons +/- |
|--------------------------------------------|--------------|-------------|---------------|------------|-----------------------------------|--------------|-------------|------------|------------|
| PAPER | 52.3% | 1.9% | 12,032 | 439 | COMPOSTABLE ORGANICS | 1.8% | 0.5% | 422 | 119 |
| Newspaper | 5.0% | 0.5% | 1,160 | 113 | Leaves and Grass | 0.0% | 0.0% | 11 | 9 |
| Plain OCC or Kraft Paper | 19.5% | 1.3% | 4,494 | 301 | Prunings | 0.0% | 0.0% | 3 | 2 |
| Grocery or Shopping Bags | 3.9% | 0.3% | 896 | 68 | Fats, Oils, and Grease | 0.0% | 0.0% | 1 | 2 |
| Paper Packaging | 6.5% | 0.4% | 1,501 | 98 | Edible Food Scraps - Packaged | 1.0% | 0.3% | 236 | 75 |
| Paper Products | 13.8% | 1.2% | 3,179 | 267 | Edible Food Scraps - Non-Packaged | 0.4% | 0.2% | 81 | 39 |
| Compostable or Soiled Paper Products | 0.8% | 0.2% | 185 | 37 | Non-Edible Food Scraps | 0.4% | 0.1% | 81 | 33 |
| Compostable Food Service Paper Packaging | 0.3% | 0.1% | 79 | 14 | Other Compostable Organics | 0.0% | 0.0% | 9 | 5 |
| Non-Comp Food Service Paper Packaging | 0.3% | 0.0% | 72 | 11 | OTHER ORGANICS | 0.8% | 0.2% | 189 | 43 |
| Waxed OCC or Kraft Paper | 0.0% | 0.0% | 9 | 8 | Textiles | 0.4% | 0.1% | 81 | 20 |
| Shredded Paper | 0.1% | 0.0% | 15 | 10 | Mixed Textiles | 0.2% | 0.1% | 46 | 19 |
| Aseptic Containers | 0.2% | 0.0% | 57 | 6 | Disposable Diapers | 0.2% | 0.1% | 38 | 20 |
| Gable Top Containers | 0.6% | 0.0% | 140 | 9 | Animal By-products | 0.1% | 0.1% | 17 | 12 |
| Other Polycoated Containers | 0.3% | 0.0% | 60 | 11 | Rubber Products | 0.0% | 0.0% | 8 | 6 |
| Mixed or Other Paper | 0.8% | 0.2% | 186 | 46 | Tires | 0.0% | 0.0% | - | - |
| PLASTIC | 9.9% | 0.5% | 2,274 | 116 | FURNITURE AND ELECTRONICS | 0.2% | 0.1% | 46 | 25 |
| PET Bottles | 2.3% | 0.2% | 539 | 46 | Furniture | 0.0% | 0.0% | - | - |
| HDPE Natural Bottles | 0.6% | 0.1% | 135 | 14 | Mattresses | 0.0% | 0.0% | - | - |
| HDPE Colored Bottles | 0.6% | 0.1% | 133 | 16 | Small Appliances | 0.1% | 0.1% | 26 | 24 |
| PP Bottles | 0.1% | 0.0% | 13 | 3 | Fluorescent Tubes and CFLs | 0.0% | 0.0% | 1 | 1 |
| Other Plastic Bottles | 0.0% | 0.0% | 8 | 4 | LED Lighting | 0.0% | 0.0% | 0 | 0 |
| PET Non-Bottle Packaging | 1.4% | 0.1% | 312 | 20 | Rechargeable Batteries | 0.0% | 0.0% | - | - |
| HDPE Non-Bottle Packaging | 0.2% | 0.0% | 45 | 7 | Other Dry-cell Batteries | 0.0% | 0.0% | 3 | 2 |
| PP Non-Bottle Packaging | 0.8% | 0.1% | 181 | 18 | Wet-cell Batteries | 0.0% | 0.0% | - | - |
| Other Non-Bottle Plastic Packaging | 0.3% | 0.0% | 80 | 11 | E-Cycle WA Electronics | 0.0% | 0.0% | 0 | 1 |
| Compostable Food Service Plastic Utensils | 0.0% | 0.0% | 2 | 1 | Non-E-Cycle WA Electronics | 0.1% | 0.0% | 15 | 8 |
| Compostable Food Service Plastic Packaging | 0.0% | 0.0% | 7 | 2 | C&D | 0.8% | 0.3% | 182 | 62 |
| Non-Comp Food Service Plastic Utensils | 0.0% | 0.0% | 8 | 2 | Clean Dimension Lumber | 0.1% | 0.1% | 26 | 19 |
| Non-Comp Food Service Plastic Packaging | 0.5% | 0.1% | 106 | 13 | Clean Engineered Wood | 0.1% | 0.1% | 29 | 25 |
| Takeout and Retail Plastic Bags | 0.2% | 0.0% | 52 | 9 | Other Untreated Wood | 0.0% | 0.0% | 5 | 7 |
| Other Clean PE Film | 0.4% | 0.1% | 88 | 19 | Crates or Boxes or Pallets | 0.0% | 0.0% | 1 | 1 |
| Stretch Wrap | 0.1% | 0.1% | 15 | 22 | New Painted Wood | 0.0% | 0.0% | 10 | 8 |
| Other Plastic Film | 0.7% | 0.1% | 154 | 23 | Old Painted Wood | 0.0% | 0.0% | 10 | 8 |
| Mailers | 0.1% | 0.0% | 33 | 5 | Creosote-treated Wood | 0.0% | 0.0% | - | - |
| Pouches | 0.1% | 0.0% | 12 | 3 | Other Treated Wood | 0.0% | 0.0% | 10 | 10 |
| Compostable Plastic Bags | 0.0% | 0.0% | 1 | 0 | Contaminated Wood | 0.0% | 0.0% | 8 | 6 |
| Plastic Garbage Bags | 0.2% | 0.0% | 44 | 8 | New Gypsum Scrap | 0.0% | 0.0% | - | - |
| EPS Food-grade | 0.1% | 0.0% | 14 | 5 | Demol Gypsum Scrap | 0.0% | 0.0% | 1 | 2 |
| Rigid Polystyrene Foam Insulation | 0.0% | 0.0% | 0 | 0 | Carpet | 0.0% | 0.0% | 0 | 0 |
| EPS Non-food Grade | 0.1% | 0.0% | 34 | 10 | Felt Carpet Pad | 0.2% | 0.2% | 35 | 56 |
| Large Durable Plastic Products | 0.2% | 0.1% | 52 | 21 | Fiberglass Insulation | 0.0% | 0.0% | 7 | 6 |
| Small Durable Plastic Products | 0.5% | 0.1% | 122 | 27 | Rock or Concrete or Brick | 0.0% | 0.0% | 4 | 4 |
| Plastic or Other Materials | 0.4% | 0.1% | 83 | 18 | Ceramics | 0.1% | 0.1% | 33 | 18 |
| GLASS | 24.5% | 1.8% | 5,625 | 420 | Asphaltic Roofing | 0.0% | 0.0% | 0 | 0 |
| Clear Beverage Glass Bottles | 5.0% | 0.6% | 1,140 | 129 | Other Construction Debris | 0.0% | 0.0% | 1 | 2 |
| Green Beverage Glass Bottles | 6.3% | 0.7% | 1,442 | 168 | Liquid Latex Paints | 0.0% | 0.0% | - | - |
| Brown Beverage Glass Bottles | 2.7% | 0.3% | 625 | 72 | HAZARDOUS WASTE | 0.2% | 0.1% | 46 | 22 |
| Container Glass | 1.4% | 0.2% | 317 | 43 | Oil-based Paints | 0.0% | 0.0% | - | - |
| Other Glass | 0.2% | 0.1% | 53 | 17 | Other Potentially Harmful Wastes | 0.1% | 0.1% | 15 | 13 |
| Mixed Cullet | 8.9% | 1.3% | 2,048 | 306 | Medical Waste | 0.0% | 0.0% | 8 | 8 |
| METAL | 5.9% | 0.4% | 1,356 | 97 | Non-Caustic Cleaners or Chemicals | 0.0% | 0.0% | 4 | 6 |
| Aluminum Cans | 2.4% | 0.2% | 548 | 36 | Pharmaceuticals and Medications | 0.0% | 0.0% | 1 | 2 |
| Aluminum Foil or Containers | 0.1% | 0.0% | 29 | 4 | Vitamins and Supplements | 0.0% | 0.0% | 0 | 0 |
| Other Nonferrous Metal | 0.3% | 0.2% | 71 | 35 | Personal Care or Cosmetics | 0.1% | 0.1% | 18 | 16 |
| Other Aluminum | 0.1% | 0.1% | 29 | 14 | FINES AND MISC | 3.6% | 0.9% | 831 | 211 |
| Empty Aerosol Cans | 0.1% | 0.0% | 16 | 4 | Sand, Soil or Dirt | 0.0% | 0.0% | 1 | 1 |
| Steel Food Cans | 1.7% | 0.1% | 389 | 34 | Non-distinct Fines | 3.2% | 0.9% | 743 | 207 |
| Other Ferrous Metal | 0.8% | 0.3% | 173 | 60 | Misc Organics | 0.2% | 0.1% | 50 | 23 |
| Mixed Metals or Materials | 0.4% | 0.2% | 100 | 40 | Misc Inorganics | 0.1% | 0.1% | 27 | 22 |
| Metal Oil Filters | 0.0% | 0.0% | - | - | PPE | 0.0% | 0.0% | 11 | 3 |
| Estimated Total | 100% | | 23,002 | | | | | | |
| Sample Count | | | 150 | | | | | | |

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

Table 33: Composition – Garbage – Winter

| Material | Est. Percent | + / - | Est. Tons | Tons +/- | Material | Est. Percent | + / - | Est. Tons | Tons +/- |
|--------------------------------------------|--------------|-------------|---------------|------------|-----------------------------------|--------------|-------------|--------------|------------|
| PAPER | 19.1% | 1.2% | 5,975 | 381 | COMPOSTABLE ORGANICS | 20.6% | 1.5% | 6,444 | 476 |
| Newspaper | 0.3% | 0.1% | 103 | 29 | Leaves and Grass | 0.3% | 0.1% | 86 | 38 |
| Plain OCC or Kraft Paper | 1.7% | 0.4% | 530 | 114 | Prunings | 0.4% | 0.3% | 136 | 81 |
| Grocery or Shopping Bags | 1.3% | 0.2% | 391 | 52 | Fats, Oils, and Grease | 0.1% | 0.1% | 34 | 18 |
| Paper Packaging | 1.5% | 0.2% | 453 | 47 | Edible Food Scraps - Packaged | 9.6% | 0.8% | 2,983 | 264 |
| Paper Products | 2.1% | 0.3% | 651 | 80 | Edible Food Scraps - Non-Packaged | 3.7% | 0.6% | 1,152 | 194 |
| Compostable or Soiled Paper Products | 8.7% | 0.9% | 2,702 | 285 | Non-Edible Food Scraps | 6.4% | 0.9% | 2,001 | 273 |
| Compostable Food Service Paper Packaging | 0.6% | 0.1% | 195 | 28 | Other Compostable Organics | 0.2% | 0.0% | 52 | 15 |
| Non-Comp Food Service Paper Packaging | 1.3% | 0.2% | 410 | 48 | OTHER ORGANICS | 25.4% | 2.0% | 7,939 | 632 |
| Waxed OCC or Kraft Paper | 0.1% | 0.1% | 22 | 17 | Textiles | 4.1% | 0.8% | 1,273 | 253 |
| Shredded Paper | 0.2% | 0.1% | 65 | 45 | Mixed Textiles | 1.1% | 0.3% | 355 | 98 |
| Aseptic Containers | 0.2% | 0.0% | 51 | 9 | Disposable Diapers | 9.2% | 1.3% | 2,881 | 415 |
| Gable Top Containers | 0.2% | 0.0% | 65 | 12 | Animal By-products | 10.6% | 1.5% | 3,321 | 459 |
| Other Polycoated Containers | 0.1% | 0.0% | 42 | 8 | Rubber Products | 0.3% | 0.1% | 100 | 35 |
| Mixed or Other Paper | 0.9% | 0.1% | 295 | 45 | Tires | 0.0% | 0.0% | 8 | 13 |
| PLASTIC | 15.3% | 0.8% | 4,785 | 265 | FURNITURE AND ELECTRONICS | 0.7% | 0.3% | 229 | 106 |
| PET Bottles | 0.6% | 0.1% | 198 | 23 | Furniture | 0.0% | 0.0% | - | - |
| HDPE Natural Bottles | 0.2% | 0.0% | 63 | 11 | Mattresses | 0.1% | 0.1% | 25 | 40 |
| HDPE Colored Bottles | 0.3% | 0.0% | 84 | 12 | Small Appliances | 0.1% | 0.1% | 23 | 16 |
| PP Bottles | 0.0% | 0.0% | 13 | 3 | Fluorescent Tubes and CFLs | 0.1% | 0.1% | 23 | 21 |
| Other Plastic Bottles | 0.0% | 0.0% | 8 | 4 | LED Lighting | 0.0% | 0.0% | 7 | 3 |
| PET Non-Bottle Packaging | 0.7% | 0.1% | 214 | 19 | Rechargeable Batteries | 0.0% | 0.0% | 4 | 5 |
| HDPE Non-Bottle Packaging | 0.1% | 0.0% | 23 | 8 | Other Dry-cell Batteries | 0.1% | 0.0% | 23 | 8 |
| PP Non-Bottle Packaging | 1.0% | 0.1% | 307 | 29 | Wet-cell Batteries | 0.0% | 0.0% | - | - |
| Other Non-Bottle Plastic Packaging | 0.5% | 0.0% | 168 | 14 | E-Cycle WA Electronics | 0.0% | 0.0% | 3 | 4 |
| Compostable Food Service Plastic Utensils | 0.0% | 0.0% | 15 | 6 | Non-E-Cycle WA Electronics | 0.4% | 0.3% | 121 | 91 |
| Compostable Food Service Plastic Packaging | 0.1% | 0.0% | 37 | 8 | C&D | 6.0% | 1.5% | 1,865 | 462 |
| Non-Comp Food Service Plastic Utensils | 0.1% | 0.0% | 36 | 8 | Clean Dimension Lumber | 0.3% | 0.1% | 86 | 46 |
| Non-Comp Food Service Plastic Packaging | 0.4% | 0.1% | 119 | 22 | Clean Engineered Wood | 0.2% | 0.1% | 63 | 41 |
| Takeout and Retail Plastic Bags | 0.5% | 0.1% | 167 | 23 | Other Untreated Wood | 0.0% | 0.0% | 3 | 4 |
| Other Clean PE Film | 0.4% | 0.2% | 137 | 64 | Crates or Boxes or Pallets | 0.2% | 0.2% | 74 | 72 |
| Stretch Wrap | 0.1% | 0.1% | 44 | 35 | New Painted Wood | 0.7% | 0.3% | 214 | 84 |
| Other Plastic Film | 4.9% | 0.5% | 1,524 | 156 | Old Painted Wood | 0.1% | 0.1% | 28 | 23 |
| Mailers | 0.2% | 0.1% | 76 | 18 | Creosote-treated Wood | 0.0% | 0.0% | - | - |
| Pouches | 0.2% | 0.0% | 69 | 11 | Other Treated Wood | 0.0% | 0.0% | 6 | 7 |
| Compostable Plastic Bags | 0.0% | 0.0% | 7 | 2 | Contaminated Wood | 0.5% | 0.4% | 150 | 115 |
| Plastic Garbage Bags | 1.9% | 0.1% | 604 | 46 | New Gypsum Scrap | 0.1% | 0.2% | 41 | 65 |
| EPS Food-grade | 0.3% | 0.0% | 85 | 13 | Demo Gypsum Scrap | 0.0% | 0.1% | 14 | 17 |
| Rigid Polystyrene Foam Insulation | 0.0% | 0.0% | 0 | 0 | Carpet | 1.8% | 1.1% | 561 | 337 |
| EPS Non-food Grade | 0.5% | 0.1% | 144 | 21 | Felt Carpet Pad | 0.0% | 0.0% | 7 | 10 |
| Large Durable Plastic Products | 0.3% | 0.1% | 79 | 38 | Fiberglass Insulation | 0.0% | 0.1% | 14 | 17 |
| Small Durable Plastic Products | 1.0% | 0.1% | 317 | 36 | Rock or Concrete or Brick | 0.3% | 0.2% | 87 | 74 |
| Plastic or Other Materials | 0.8% | 0.2% | 249 | 66 | Ceramics | 0.4% | 0.3% | 125 | 84 |
| GLASS | 3.4% | 0.4% | 1,063 | 115 | Asphaltic Roofing | 0.0% | 0.0% | 0 | 1 |
| Clear Beverage Glass Bottles | 0.6% | 0.1% | 172 | 36 | Other Construction Debris | 0.9% | 0.6% | 283 | 175 |
| Green Beverage Glass Bottles | 0.3% | 0.1% | 105 | 34 | Liquid Latex Paints | 0.3% | 0.3% | 109 | 97 |
| Brown Beverage Glass Bottles | 0.2% | 0.1% | 53 | 16 | HAZARDOUS WASTE | 1.5% | 0.7% | 460 | 227 |
| Container Glass | 0.6% | 0.1% | 198 | 32 | Oil-based Paints | 0.0% | 0.0% | 2 | 3 |
| Other Glass | 0.4% | 0.1% | 112 | 24 | Other Potentially Harmful Wastes | 0.3% | 0.4% | 104 | 121 |
| Mixed Cullet | 1.4% | 0.3% | 422 | 83 | Medical Waste | 0.6% | 0.6% | 177 | 182 |
| METAL | 4.1% | 0.6% | 1,273 | 181 | Non-Caustic Cleaners or Chemicals | 0.0% | 0.0% | 9 | 11 |
| Aluminum Cans | 0.3% | 0.0% | 91 | 12 | Pharmaceuticals and Medications | 0.1% | 0.1% | 21 | 22 |
| Aluminum Foil or Containers | 0.5% | 0.1% | 164 | 20 | Vitamins and Supplements | 0.1% | 0.0% | 17 | 9 |
| Other Nonferrous Metal | 0.0% | 0.0% | 1 | 0 | Personal Care or Cosmetics | 0.4% | 0.1% | 130 | 36 |
| Other Aluminum | 0.2% | 0.1% | 77 | 34 | FINES AND MISC | 3.8% | 0.6% | 1,184 | 176 |
| Empty Aerosol Cans | 0.1% | 0.0% | 45 | 12 | Sand, Soil or Dirt | 0.4% | 0.3% | 110 | 97 |
| Steel Food Cans | 0.5% | 0.1% | 156 | 27 | Non-distinct Fines | 1.5% | 0.3% | 455 | 88 |
| Other Ferrous Metal | 0.8% | 0.3% | 238 | 83 | Misc Organics | 1.1% | 0.2% | 347 | 56 |
| Mixed Metals or Materials | 1.6% | 0.4% | 500 | 138 | Misc Inorganics | 0.6% | 0.1% | 178 | 44 |
| Metal Oil Filters | 0.0% | 0.0% | 2 | 2 | PPE | 0.3% | 0.1% | 94 | 25 |
| Estimated Total | 100% | | 31,217 | | | | | | |
| Sample Count | | | 109 | | | | | | |

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

Table 34: Composition – Recycling – Winter

| Material | Est. Percent | +/- | Est. Tons | Tons +/- | Material | Est. Percent | +/- | Est. Tons | Tons +/- |
|--------------------------------------------|--------------|-------------|---------------|------------|-----------------------------------|--------------|-------------|------------|------------|
| PAPER | 56.2% | 3.1% | 13,065 | 718 | COMPOSTABLE ORGANICS | 2.0% | 1.2% | 455 | 271 |
| Newspaper | 5.4% | 0.9% | 1,251 | 210 | Leaves and Grass | 0.0% | 0.0% | 7 | 8 |
| Plain OCC or Kraft Paper | 21.5% | 2.8% | 5,004 | 655 | Prunings | 0.0% | 0.0% | - | - |
| Grocery or Shopping Bags | 3.4% | 0.5% | 795 | 114 | Fats, Oils, and Grease | 0.0% | 0.0% | - | - |
| Paper Packaging | 7.0% | 0.9% | 1,635 | 201 | Edible Food Scraps - Packaged | 1.6% | 1.1% | 371 | 244 |
| Paper Products | 14.6% | 1.5% | 3,396 | 350 | Edible Food Scraps - Non-Packaged | 0.1% | 0.1% | 22 | 13 |
| Compostable or Soiled Paper Products | 0.5% | 0.1% | 124 | 31 | Non-Edible Food Scraps | 0.2% | 0.1% | 39 | 15 |
| Compostable Food Service Paper Packaging | 0.2% | 0.1% | 51 | 27 | Other Compostable Organics | 0.1% | 0.0% | 15 | 10 |
| Non-Comp Food Service Paper Packaging | 0.4% | 0.0% | 84 | 11 | OTHER ORGANICS | 1.0% | 0.4% | 229 | 103 |
| Waxed OCC or Kraft Paper | 0.6% | 0.5% | 136 | 128 | Textiles | 0.3% | 0.1% | 63 | 23 |
| Shredded Paper | 0.0% | 0.0% | 3 | 5 | Mixed Textiles | 0.4% | 0.3% | 93 | 68 |
| Aseptic Containers | 0.3% | 0.1% | 67 | 14 | Disposable Diapers | 0.1% | 0.1% | 30 | 21 |
| Gable Top Containers | 0.8% | 0.1% | 178 | 25 | Animal By-products | 0.0% | 0.0% | 2 | 1 |
| Other Polycoated Containers | 0.1% | 0.0% | 13 | 3 | Rubber Products | 0.2% | 0.3% | 42 | 64 |
| Mixed or Other Paper | 1.4% | 0.5% | 327 | 111 | Tires | 0.0% | 0.0% | - | - |
| PLASTIC | 8.4% | 1.3% | 1,955 | 314 | FURNITURE AND ELECTRONICS | 0.1% | 0.0% | 15 | 9 |
| PET Bottles | 2.1% | 0.4% | 490 | 95 | Furniture | 0.0% | 0.0% | - | - |
| HDPE Natural Bottles | 0.4% | 0.1% | 97 | 20 | Mattresses | 0.0% | 0.0% | - | - |
| HDPE Colored Bottles | 0.4% | 0.1% | 103 | 20 | Small Appliances | 0.0% | 0.0% | - | - |
| PP Bottles | 0.1% | 0.1% | 30 | 22 | Fluorescent Tubes and CFLs | 0.0% | 0.0% | 0 | 1 |
| Other Plastic Bottles | 0.0% | 0.0% | 3 | 2 | LED Lighting | 0.0% | 0.0% | - | - |
| PET Non-Bottle Packaging | 1.2% | 0.2% | 287 | 41 | Rechargeable Batteries | 0.0% | 0.0% | 1 | 2 |
| HDPE Non-Bottle Packaging | 0.2% | 0.1% | 44 | 16 | Other Dry-cell Batteries | 0.0% | 0.0% | 4 | 4 |
| PP Non-Bottle Packaging | 1.0% | 0.1% | 226 | 33 | Wet-cell Batteries | 0.0% | 0.0% | - | - |
| Other Non-Bottle Plastic Packaging | 0.3% | 0.1% | 70 | 15 | E-Cycle WA Electronics | 0.0% | 0.0% | 3 | 3 |
| Compostable Food Service Plastic Utensils | 0.0% | 0.0% | 1 | 1 | Non-E-Cycle WA Electronics | 0.0% | 0.0% | 7 | 10 |
| Compostable Food Service Plastic Packaging | 0.0% | 0.0% | 5 | 2 | C&D | 0.1% | 0.1% | 28 | 12 |
| Non-Comp Food Service Plastic Utensils | 0.0% | 0.0% | 4 | 1 | Clean Dimension Lumber | 0.0% | 0.0% | 3 | 2 |
| Non-Comp Food Service Plastic Packaging | 0.3% | 0.0% | 69 | 11 | Clean Engineered Wood | 0.0% | 0.1% | 11 | 13 |
| Takeout and Retail Plastic Bags | 0.2% | 0.0% | 39 | 11 | Other Untreated Wood | 0.0% | 0.0% | - | - |
| Other Clean PE Film | 0.2% | 0.1% | 55 | 12 | Crates or Boxes or Pallets | 0.0% | 0.0% | - | - |
| Stretch Wrap | 0.0% | 0.0% | 1 | 1 | New Painted Wood | 0.0% | 0.0% | 4 | 3 |
| Other Plastic Film | 0.6% | 0.1% | 141 | 31 | Old Painted Wood | 0.0% | 0.0% | - | - |
| Mailers | 0.1% | 0.0% | 31 | 6 | Creosote-treated Wood | 0.0% | 0.0% | - | - |
| Pouches | 0.0% | 0.0% | 6 | 3 | Other Treated Wood | 0.0% | 0.0% | - | - |
| Compostable Plastic Bags | 0.0% | 0.0% | 0 | 0 | Contaminated Wood | 0.0% | 0.0% | - | - |
| Plastic Garbage Bags | 0.2% | 0.0% | 41 | 8 | New Gypsum Scrap | 0.0% | 0.0% | - | - |
| EPS Food-grade | 0.0% | 0.0% | 4 | 1 | Demo Gypsum Scrap | 0.0% | 0.0% | - | - |
| Rigid Polystyrene Foam Insulation | 0.0% | 0.0% | - | - | Carpet | 0.0% | 0.0% | - | - |
| EPS Non-food Grade | 0.1% | 0.0% | 27 | 10 | Felt Carpet Pad | 0.0% | 0.0% | - | - |
| Large Durable Plastic Products | 0.0% | 0.0% | 4 | 5 | Fiberglass Insulation | 0.0% | 0.0% | - | - |
| Small Durable Plastic Products | 0.6% | 0.6% | 150 | 149 | Rock or Concrete or Brick | 0.0% | 0.0% | - | - |
| Plastic or Other Materials | 0.1% | 0.1% | 27 | 12 | Ceramics | 0.0% | 0.0% | 9 | 11 |
| GLASS | 26.3% | 3.2% | 6,117 | 748 | Asphaltic Roofing | 0.0% | 0.0% | - | - |
| Clear Beverage Glass Bottles | 5.3% | 0.9% | 1,224 | 217 | Other Construction Debris | 0.0% | 0.0% | 1 | 1 |
| Green Beverage Glass Bottles | 7.8% | 1.4% | 1,809 | 323 | Liquid Latex Paints | 0.0% | 0.0% | - | - |
| Brown Beverage Glass Bottles | 2.9% | 1.0% | 674 | 244 | HAZARDOUS WASTE | 0.0% | 0.0% | 8 | 8 |
| Container Glass | 1.8% | 0.4% | 423 | 87 | Oil-based Paints | 0.0% | 0.0% | - | - |
| Other Glass | 0.2% | 0.1% | 37 | 13 | Other Potentially Harmful Wastes | 0.0% | 0.0% | 5 | 6 |
| Mixed Cullet | 8.4% | 1.7% | 1,951 | 384 | Medical Waste | 0.0% | 0.0% | - | - |
| METAL | 5.0% | 0.5% | 1,162 | 111 | Non-Caustic Cleaners or Chemicals | 0.0% | 0.0% | - | - |
| Aluminum Cans | 2.2% | 0.3% | 505 | 61 | Pharmaceuticals and Medications | 0.0% | 0.0% | 0 | 0 |
| Aluminum Foil or Containers | 0.2% | 0.1% | 53 | 13 | Vitamins and Supplements | 0.0% | 0.0% | 1 | 1 |
| Other Nonferrous Metal | 0.0% | 0.0% | - | - | Personal Care or Cosmetics | 0.0% | 0.0% | 2 | 2 |
| Other Aluminum | 0.0% | 0.0% | 7 | 7 | FINES AND MISC | 0.9% | 0.2% | 220 | 46 |
| Empty Aerosol Cans | 0.0% | 0.0% | 10 | 5 | Sand, Soil or Dirt | 0.0% | 0.0% | - | - |
| Steel Food Cans | 1.6% | 0.2% | 373 | 56 | Non-distinct Fines | 0.7% | 0.1% | 169 | 34 |
| Other Ferrous Metal | 0.5% | 0.2% | 123 | 43 | Misc Organics | 0.2% | 0.1% | 37 | 31 |
| Mixed Metals or Materials | 0.4% | 0.1% | 91 | 26 | Misc Inorganics | 0.0% | 0.0% | 5 | 2 |
| Metal Oil Filters | 0.0% | 0.0% | - | - | PPE | 0.0% | 0.0% | 9 | 6 |
| Estimated Total | 100% | | 23,254 | | | | | | |
| Sample Count | | | 45 | | | | | | |

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

Table 35: Composition – Garbage – Zone 1

| Material | Est. Percent | +/- | Est. Tons | Tons +/- | Material | Est. Percent | +/- | Est. Tons | Tons +/- |
|--------------------------------------------|--------------|-------------|---------------|------------|-----------------------------------|--------------|-------------|--------------|------------|
| PAPER | 19.0% | 1.1% | 4,812 | 278 | COMPOSTABLE ORGANICS | 21.8% | 1.5% | 5,518 | 380 |
| Newspaper | 0.3% | 0.1% | 71 | 21 | Leaves and Grass | 0.5% | 0.2% | 127 | 61 |
| Plain OCC or Kraft Paper | 1.2% | 0.3% | 307 | 78 | Prunings | 0.2% | 0.2% | 62 | 43 |
| Grocery or Shopping Bags | 1.4% | 0.2% | 354 | 39 | Fats, Oils, and Grease | 0.0% | 0.0% | 5 | 3 |
| Paper Packaging | 1.3% | 0.1% | 336 | 34 | Edible Food Scraps - Packaged | 10.7% | 1.4% | 2,719 | 354 |
| Paper Products | 2.1% | 0.4% | 537 | 113 | Edible Food Scraps - Non-Packaged | 4.4% | 1.6% | 1,119 | 396 |
| Compostable or Soiled Paper Products | 8.5% | 0.8% | 2,154 | 215 | Non-Edible Food Scraps | 5.8% | 0.8% | 1,459 | 203 |
| Compostable Food Service Paper Packaging | 1.3% | 1.0% | 328 | 248 | Other Compostable Organics | 0.1% | 0.0% | 27 | 8 |
| Non-Comp Food Service Paper Packaging | 1.1% | 0.2% | 275 | 39 | OTHER ORGANICS | 24.1% | 1.8% | 6,101 | 445 |
| Waxed OCC or Kraft Paper | 0.0% | 0.1% | 10 | 15 | Textiles | 4.4% | 1.4% | 1,105 | 347 |
| Shredded Paper | 0.1% | 0.1% | 16 | 25 | Mixed Textiles | 1.4% | 0.4% | 345 | 90 |
| Aseptic Containers | 0.2% | 0.0% | 43 | 8 | Disposable Diapers | 7.4% | 1.1% | 1,868 | 290 |
| Gable Top Containers | 0.2% | 0.0% | 47 | 9 | Animal By-products | 10.0% | 2.2% | 2,544 | 566 |
| Other Polyc coated Containers | 0.2% | 0.0% | 46 | 10 | Rubber Products | 0.9% | 0.5% | 222 | 128 |
| Mixed or Other Paper | 1.1% | 0.2% | 288 | 49 | Tires | 0.1% | 0.1% | 17 | 22 |
| PLASTIC | 16.1% | 1.1% | 4,081 | 290 | FURNITURE AND ELECTRONICS | 0.6% | 0.3% | 143 | 76 |
| PET Bottles | 0.7% | 0.1% | 179 | 24 | Furniture | 0.0% | 0.0% | - | - |
| HDPE Natural Bottles | 0.2% | 0.0% | 39 | 10 | Mattresses | 0.1% | 0.1% | 16 | 25 |
| HDPE Colored Bottles | 0.4% | 0.1% | 107 | 24 | Small Appliances | 0.1% | 0.2% | 34 | 51 |
| PP Bottles | 0.0% | 0.0% | 10 | 3 | Fluorescent Tubes and CFLs | 0.0% | 0.0% | 4 | 4 |
| Other Plastic Bottles | 0.0% | 0.0% | 2 | 2 | LED Lighting | 0.0% | 0.0% | 2 | 2 |
| PET Non-Bottle Packaging | 0.6% | 0.1% | 160 | 22 | Rechargeable Batteries | 0.0% | 0.0% | - | - |
| HDPE Non-Bottle Packaging | 0.1% | 0.0% | 17 | 7 | Other Dry-cell Batteries | 0.1% | 0.1% | 22 | 15 |
| PP Non-Bottle Packaging | 1.0% | 0.2% | 252 | 47 | Wet-cell Batteries | 0.0% | 0.0% | - | - |
| Other Non-Bottle Plastic Packaging | 0.6% | 0.1% | 145 | 23 | E-Cycle WA Electronics | 0.1% | 0.1% | 25 | 27 |
| Compostable Food Service Plastic Utensils | 0.0% | 0.0% | 7 | 3 | Non-E-Cycle WA Electronics | 0.2% | 0.2% | 40 | 48 |
| Compostable Food Service Plastic Packaging | 0.1% | 0.0% | 20 | 8 | C&D | 6.4% | 1.8% | 1,621 | 447 |
| Non-Comp Food Service Plastic Utensils | 0.1% | 0.0% | 14 | 3 | Clean Dimension Lumber | 0.4% | 0.2% | 108 | 54 |
| Non-Comp Food Service Plastic Packaging | 0.4% | 0.1% | 112 | 20 | Clean Engineered Wood | 0.3% | 0.2% | 81 | 52 |
| Takeout and Retail Plastic Bags | 0.5% | 0.1% | 117 | 22 | Other Untreated Wood | 0.0% | 0.0% | 12 | 11 |
| Other Clean PE Film | 0.4% | 0.1% | 90 | 15 | Crates or Boxes or Pallets | 0.0% | 0.0% | - | - |
| Stretch Wrap | 0.0% | 0.1% | 12 | 16 | New Painted Wood | 1.6% | 1.1% | 398 | 288 |
| Other Plastic Film | 5.3% | 0.4% | 1,334 | 92 | Old Painted Wood | 0.1% | 0.1% | 17 | 21 |
| Mailers | 0.2% | 0.0% | 59 | 11 | Creosote-treated Wood | 0.0% | 0.0% | - | - |
| Pouches | 0.2% | 0.0% | 44 | 6 | Other Treated Wood | 0.0% | 0.0% | 4 | 4 |
| Compostable Plastic Bags | 0.0% | 0.0% | 8 | 3 | Contaminated Wood | 0.4% | 0.2% | 90 | 38 |
| Plastic Garbage Bags | 1.8% | 0.2% | 458 | 55 | New Gypsum Scrap | 0.0% | 0.0% | - | - |
| EPS Food-grade | 0.3% | 0.1% | 86 | 16 | Demo Gypsum Scrap | 0.3% | 0.2% | 63 | 55 |
| Rigid Polystyrene Foam Insulation | 0.0% | 0.0% | - | - | Carpet | 0.5% | 0.5% | 132 | 127 |
| EPS Non-food Grade | 0.6% | 0.1% | 143 | 32 | Felt Carpet Pad | 0.0% | 0.0% | 1 | 1 |
| Large Durable Plastic Products | 0.3% | 0.1% | 75 | 37 | Fiberglass Insulation | 0.1% | 0.1% | 27 | 22 |
| Small Durable Plastic Products | 0.9% | 0.2% | 235 | 50 | Rock or Concrete or Brick | 0.8% | 0.6% | 207 | 158 |
| Plastic or Other Materials | 1.4% | 0.7% | 355 | 178 | Ceramics | 0.4% | 0.2% | 105 | 46 |
| GLASS | 3.7% | 0.5% | 934 | 126 | Asphaltic Roofing | 0.1% | 0.2% | 32 | 43 |
| Clear Beverage Glass Bottles | 0.6% | 0.1% | 161 | 35 | Other Construction Debris | 1.3% | 0.9% | 318 | 234 |
| Green Beverage Glass Bottles | 0.3% | 0.1% | 79 | 24 | Liquid Latex Paints | 0.1% | 0.1% | 24 | 19 |
| Brown Beverage Glass Bottles | 0.2% | 0.1% | 46 | 28 | HAZARDOUS WASTE | 0.9% | 0.3% | 234 | 84 |
| Container Glass | 0.4% | 0.1% | 112 | 21 | Oil-based Paints | 0.0% | 0.0% | - | - |
| Other Glass | 0.5% | 0.3% | 127 | 67 | Other Potentially Harmful Wastes | 0.1% | 0.0% | 20 | 12 |
| Mixed Cullet | 1.6% | 0.3% | 408 | 82 | Medical Waste | 0.4% | 0.3% | 94 | 75 |
| METAL | 4.5% | 1.4% | 1,150 | 352 | Non-Caustic Cleaners or Chemicals | 0.0% | 0.0% | 3 | 3 |
| Aluminum Cans | 0.2% | 0.0% | 60 | 11 | Pharmaceuticals and Medications | 0.0% | 0.0% | 10 | 4 |
| Aluminum Foil or Containers | 0.5% | 0.1% | 125 | 22 | Vitamins and Supplements | 0.0% | 0.0% | 9 | 8 |
| Other Nonferrous Metal | 0.0% | 0.0% | 4 | 3 | Personal Care or Cosmetics | 0.4% | 0.1% | 97 | 30 |
| Other Aluminum | 0.2% | 0.1% | 54 | 23 | FINES AND MISC | 3.0% | 0.6% | 748 | 159 |
| Empty Aerosol Cans | 0.1% | 0.1% | 36 | 16 | Sand, Soil or Dirt | 0.2% | 0.3% | 51 | 67 |
| Steel Food Cans | 0.5% | 0.1% | 119 | 24 | Non-distinct Fines | 0.8% | 0.2% | 204 | 57 |
| Other Ferrous Metal | 1.0% | 0.3% | 242 | 75 | Misc Organics | 1.2% | 0.5% | 297 | 116 |
| Mixed Metals or Materials | 2.0% | 0.8% | 509 | 204 | Misc Inorganics | 0.5% | 0.2% | 139 | 45 |
| Metal Oil Filters | 0.0% | 0.0% | 2 | 3 | PPE | 0.2% | 0.1% | 58 | 15 |
| Estimated Total | 100% | | 25,342 | | | | | | |
| Sample Count | | | 72 | | | | | | |

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

Table 36: Composition – Recycling – Zone 1

| Material | Est. Percent | + / - | Est. Tons | Tons +/- | Material | Est. Percent | + / - | Est. Tons | Tons +/- |
|--------------------------------------------|--------------|-------------|---------------|------------|-----------------------------------|--------------|-------------|------------|------------|
| PAPER | 49.8% | 2.5% | 11,191 | 556 | COMPOSTABLE ORGANICS | 1.6% | 0.9% | 370 | 198 |
| Newspaper | 4.0% | 0.6% | 907 | 134 | Leaves and Grass | 0.0% | 0.0% | 6 | 6 |
| Plain OCC or Kraft Paper | 17.8% | 1.8% | 3,991 | 405 | Prunings | 0.0% | 0.0% | 1 | 1 |
| Grocery or Shopping Bags | 3.8% | 0.4% | 853 | 91 | Fats, Oils, and Grease | 0.5% | 0.5% | 105 | 123 |
| Paper Packaging | 6.8% | 0.7% | 1,536 | 160 | Edible Food Scraps - Packaged | 0.7% | 0.3% | 163 | 73 |
| Paper Products | 13.8% | 1.7% | 3,108 | 372 | Edible Food Scraps - Non-Packaged | 0.2% | 0.1% | 44 | 29 |
| Compostable or Soiled Paper Products | 0.5% | 0.1% | 102 | 28 | Non-Edible Food Scraps | 0.2% | 0.1% | 48 | 25 |
| Compostable Food Service Paper Packaging | 0.3% | 0.1% | 61 | 19 | Other Compostable Organics | 0.0% | 0.0% | 4 | 2 |
| Non-Comp Food Service Paper Packaging | 0.3% | 0.0% | 69 | 10 | OTHER ORGANICS | 0.7% | 0.2% | 149 | 55 |
| Waxed OCC or Kraft Paper | 0.4% | 0.5% | 97 | 112 | Textiles | 0.3% | 0.1% | 68 | 26 |
| Shredded Paper | 0.1% | 0.1% | 18 | 12 | Mixed Textiles | 0.2% | 0.2% | 55 | 43 |
| Aseptic Containers | 0.3% | 0.1% | 78 | 21 | Disposable Diapers | 0.1% | 0.1% | 21 | 14 |
| Gable Top Containers | 0.6% | 0.1% | 129 | 21 | Animal By-products | 0.0% | 0.0% | 4 | 5 |
| Other Polycoated Containers | 0.1% | 0.0% | 24 | 5 | Rubber Products | 0.0% | 0.0% | 1 | 1 |
| Mixed or Other Paper | 1.0% | 0.2% | 218 | 46 | Tires | 0.0% | 0.0% | - | - |
| PLASTIC | 10.0% | 1.2% | 2,257 | 259 | FURNITURE AND ELECTRONICS | 0.1% | 0.1% | 16 | 16 |
| PET Bottles | 2.4% | 0.3% | 543 | 66 | Furniture | 0.0% | 0.0% | - | - |
| HDPE Natural Bottles | 0.7% | 0.1% | 155 | 30 | Mattresses | 0.0% | 0.0% | - | - |
| HDPE Colored Bottles | 0.7% | 0.1% | 150 | 28 | Small Appliances | 0.0% | 0.0% | 1 | 2 |
| PP Bottles | 0.0% | 0.0% | 11 | 3 | Fluorescent Tubes and CFLs | 0.0% | 0.0% | 0 | 1 |
| Other Plastic Bottles | 0.0% | 0.0% | 3 | 3 | LED Lighting | 0.0% | 0.0% | - | - |
| PET Non-Bottle Packaging | 1.4% | 0.1% | 314 | 32 | Rechargeable Batteries | 0.0% | 0.0% | - | - |
| HDPE Non-Bottle Packaging | 0.2% | 0.0% | 46 | 9 | Other Dry-cell Batteries | 0.0% | 0.0% | 1 | 1 |
| PP Non-Bottle Packaging | 1.2% | 0.2% | 266 | 36 | Wet-cell Batteries | 0.0% | 0.0% | - | - |
| Other Non-Bottle Plastic Packaging | 0.3% | 0.0% | 77 | 11 | E-Cycle WA Electronics | 0.0% | 0.0% | - | - |
| Compostable Food Service Plastic Utensils | 0.0% | 0.0% | 2 | 1 | Non-E-Cycle WA Electronics | 0.1% | 0.1% | 13 | 16 |
| Compostable Food Service Plastic Packaging | 0.1% | 0.1% | 22 | 13 | C&D | 1.1% | 0.9% | 241 | 197 |
| Non-Comp Food Service Plastic Utensils | 0.1% | 0.1% | 22 | 28 | Clean Dimension Lumber | 0.1% | 0.1% | 18 | 15 |
| Non-Comp Food Service Plastic Packaging | 0.3% | 0.1% | 65 | 12 | Clean Engineered Wood | 0.1% | 0.1% | 13 | 21 |
| Takeout and Retail Plastic Bags | 0.2% | 0.0% | 35 | 8 | Other Untreated Wood | 0.0% | 0.0% | 5 | 6 |
| Other Clean PE Film | 0.2% | 0.0% | 55 | 9 | Crates or Boxes or Pallets | 0.0% | 0.0% | - | - |
| Stretch Wrap | 0.0% | 0.0% | 1 | 2 | New Painted Wood | 0.0% | 0.0% | 8 | 7 |
| Other Plastic Film | 0.6% | 0.1% | 134 | 28 | Old Painted Wood | 0.0% | 0.0% | 3 | 6 |
| Mailers | 0.1% | 0.0% | 28 | 6 | Creosote-treated Wood | 0.0% | 0.0% | - | - |
| Pouches | 0.0% | 0.0% | 8 | 3 | Other Treated Wood | 0.0% | 0.0% | 1 | 1 |
| Compostable Plastic Bags | 0.0% | 0.0% | 0 | 0 | Contaminated Wood | 0.7% | 0.7% | 162 | 167 |
| Plastic Garbage Bags | 0.1% | 0.0% | 34 | 5 | New Gypsum Scrap | 0.0% | 0.0% | - | - |
| EPS Food-grade | 0.0% | 0.0% | 5 | 2 | Demo Gypsum Scrap | 0.0% | 0.0% | - | - |
| Rigid Polystyrene Foam Insulation | 0.0% | 0.0% | - | - | Carpet | 0.0% | 0.0% | - | - |
| EPS Non-food Grade | 0.1% | 0.0% | 16 | 4 | Felt Carpet Pad | 0.0% | 0.0% | - | - |
| Large Durable Plastic Products | 0.2% | 0.1% | 43 | 22 | Fiberglass Insulation | 0.1% | 0.1% | 21 | 16 |
| Small Durable Plastic Products | 0.8% | 0.7% | 184 | 150 | Rock or Concrete or Brick | 0.0% | 0.0% | 0 | 0 |
| Plastic or Other Materials | 0.2% | 0.1% | 38 | 15 | Ceramics | 0.0% | 0.0% | 9 | 8 |
| GLASS | 27.0% | 2.2% | 6,078 | 499 | Asphaltic Roofing | 0.0% | 0.0% | - | - |
| Clear Beverage Glass Bottles | 6.5% | 0.9% | 1,466 | 209 | Other Construction Debris | 0.0% | 0.0% | - | - |
| Green Beverage Glass Bottles | 7.7% | 1.1% | 1,742 | 237 | Liquid Latex Paints | 0.0% | 0.0% | - | - |
| Brown Beverage Glass Bottles | 3.6% | 0.7% | 814 | 158 | HAZARDOUS WASTE | 0.1% | 0.0% | 11 | 9 |
| Container Glass | 1.8% | 0.4% | 411 | 83 | Oil-based Paints | 0.0% | 0.0% | - | - |
| Other Glass | 0.2% | 0.1% | 55 | 24 | Other Potentially Harmful Wastes | 0.0% | 0.0% | 7 | 7 |
| Mixed Cullet | 7.1% | 1.4% | 1,590 | 326 | Medical Waste | 0.0% | 0.0% | 0 | 0 |
| METAL | 8.0% | 1.8% | 1,795 | 396 | Non-Caustic Cleaners or Chemicals | 0.0% | 0.0% | - | - |
| Aluminum Cans | 3.2% | 0.3% | 714 | 76 | Pharmaceuticals and Medications | 0.0% | 0.0% | 2 | 2 |
| Aluminum Foil or Containers | 0.2% | 0.0% | 35 | 6 | Vitamins and Supplements | 0.0% | 0.0% | - | - |
| Other Nonferrous Metal | 0.1% | 0.0% | 19 | 7 | Personal Care or Cosmetics | 0.0% | 0.0% | 2 | 2 |
| Other Aluminum | 0.1% | 0.1% | 17 | 12 | FINES AND MISC | 1.7% | 0.4% | 373 | 87 |
| Empty Aerosol Cans | 0.1% | 0.0% | 14 | 5 | Sand, Soil or Dirt | 0.0% | 0.0% | 1 | 1 |
| Steel Food Cans | 1.7% | 0.2% | 377 | 45 | Non-distinct Fines | 1.3% | 0.4% | 286 | 79 |
| Other Ferrous Metal | 2.5% | 1.6% | 552 | 357 | Misc Organics | 0.3% | 0.2% | 69 | 39 |
| Mixed Metals or Materials | 0.3% | 0.1% | 67 | 25 | Misc Inorganics | 0.0% | 0.0% | 11 | 6 |
| Metal Oil Filters | 0.0% | 0.0% | - | - | PPE | 0.0% | 0.0% | 7 | 3 |
| Estimated Total | 100% | | 22,481 | | | | | | |
| Sample Count | | | | 76 | | | | | |

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

Table 37: Composition – Garbage – Zone 2

| Material | Est. Percent | + / - | Est. Tons | Tons +/- | Material | Est. Percent | + / - | Est. Tons | Tons +/- |
|--------------------------------------------|--------------|-------------|---------------|------------|-----------------------------------|--------------|-------------|--------------|--------------|
| PAPER | 17.5% | 1.3% | 5,647 | 408 | COMPOSTABLE ORGANICS | 19.4% | 2.4% | 6,243 | 770 |
| Newspaper | 0.3% | 0.1% | 104 | 46 | Leaves and Grass | 0.2% | 0.1% | 78 | 38 |
| Plain OCC or Kraft Paper | 1.1% | 0.2% | 351 | 62 | Prunings | 0.6% | 0.4% | 180 | 144 |
| Grocery or Shopping Bags | 1.4% | 0.2% | 438 | 57 | Fats, Oils, and Grease | 0.0% | 0.0% | 6 | 4 |
| Paper Packaging | 1.4% | 0.2% | 442 | 56 | Edible Food Scraps - Packaged | 9.7% | 1.3% | 3,133 | 406 |
| Paper Products | 2.4% | 0.4% | 776 | 144 | Edible Food Scraps - Non-Packaged | 3.2% | 0.5% | 1,020 | 165 |
| Compostable or Soiled Paper Products | 7.5% | 0.8% | 2,416 | 262 | Non-Edible Food Scraps | 5.5% | 1.0% | 1,767 | 322 |
| Compostable Food Service Paper Packaging | 0.6% | 0.1% | 209 | 34 | Other Compostable Organics | 0.2% | 0.1% | 58 | 17 |
| Non-Comp Food Service Paper Packaging | 1.1% | 0.2% | 344 | 56 | OTHER ORGANICS | 26.2% | 3.4% | 8,420 | 1,110 |
| Waxed OCC or Kraft Paper | 0.0% | 0.0% | - | - | Textiles | 3.6% | 1.0% | 1,147 | 320 |
| Shredded Paper | 0.1% | 0.1% | 32 | 29 | Mixed Textiles | 2.0% | 0.7% | 649 | 231 |
| Aseptic Containers | 0.2% | 0.0% | 56 | 12 | Disposable Diapers | 7.9% | 1.4% | 2,556 | 466 |
| Gable Top Containers | 0.2% | 0.0% | 58 | 15 | Animal By-products | 12.0% | 2.0% | 3,863 | 658 |
| Other Polyc coated Containers | 0.2% | 0.0% | 56 | 14 | Rubber Products | 0.6% | 0.3% | 195 | 89 |
| Mixed or Other Paper | 1.1% | 0.2% | 367 | 72 | Tires | 0.0% | 0.0% | 9 | 11 |
| PLASTIC | 16.5% | 0.9% | 5,322 | 278 | FURNITURE AND ELECTRONICS | 0.5% | 0.2% | 159 | 66 |
| PET Bottles | 0.6% | 0.1% | 191 | 26 | Furniture | 0.0% | 0.0% | 9 | 14 |
| HDPE Natural Bottles | 0.1% | 0.0% | 45 | 9 | Mattresses | 0.1% | 0.1% | 25 | 40 |
| HDPE Colored Bottles | 0.3% | 0.1% | 102 | 17 | Small Appliances | 0.0% | 0.0% | 6 | 10 |
| PP Bottles | 0.1% | 0.0% | 16 | 4 | Fluorescent Tubes and CFLs | 0.0% | 0.0% | 6 | 8 |
| Other Plastic Bottles | 0.0% | 0.0% | 4 | 3 | LED Lighting | 0.0% | 0.0% | 4 | 3 |
| PET Non-Bottle Packaging | 0.6% | 0.1% | 206 | 26 | Rechargeable Batteries | 0.0% | 0.0% | 1 | 1 |
| HDPE Non-Bottle Packaging | 0.1% | 0.1% | 46 | 22 | Other Dry-cell Batteries | 0.1% | 0.0% | 22 | 7 |
| PP Non-Bottle Packaging | 1.1% | 0.1% | 351 | 37 | Wet-cell Batteries | 0.0% | 0.0% | - | - |
| Other Non-Bottle Plastic Packaging | 0.5% | 0.1% | 151 | 18 | E-Cycle WA Electronics | 0.1% | 0.1% | 44 | 41 |
| Compostable Food Service Plastic Utensils | 0.0% | 0.0% | 7 | 3 | Non-E-Cycle WA Electronics | 0.1% | 0.1% | 42 | 31 |
| Compostable Food Service Plastic Packaging | 0.1% | 0.0% | 24 | 5 | C&D | 7.0% | 1.5% | 2,270 | 493 |
| Non-Comp Food Service Plastic Packaging | 0.1% | 0.0% | 26 | 7 | Clean Dimension Lumber | 0.9% | 0.7% | 301 | 224 |
| Non-Comp Food Service Plastic Packaging | 0.5% | 0.1% | 167 | 27 | Clean Engineered Wood | 0.1% | 0.1% | 43 | 31 |
| Takeout and Retail Plastic Bags | 0.5% | 0.1% | 153 | 24 | Other Untreated Wood | 0.1% | 0.1% | 21 | 21 |
| Other Clean PE Film | 0.4% | 0.1% | 126 | 33 | Crates or Boxes or Pallets | 0.1% | 0.2% | 33 | 52 |
| Stretch Wrap | 0.0% | 0.0% | 3 | 3 | New Painted Wood | 1.8% | 1.2% | 564 | 398 |
| Other Plastic Film | 5.5% | 0.3% | 1,760 | 102 | Old Painted Wood | 0.0% | 0.0% | 3 | 3 |
| Mailers | 0.3% | 0.1% | 91 | 18 | Creosote-treated Wood | 0.0% | 0.0% | - | - |
| Pouches | 0.2% | 0.0% | 50 | 10 | Other Treated Wood | 0.8% | 0.8% | 248 | 252 |
| Compostable Plastic Bags | 0.0% | 0.0% | 10 | 5 | Contaminated Wood | 0.3% | 0.2% | 104 | 65 |
| Plastic Garbage Bags | 2.0% | 0.2% | 653 | 63 | New Gypsum Scrap | 0.0% | 0.0% | - | - |
| EPS Food-grade | 0.3% | 0.1% | 97 | 23 | Demo Gypsum Scrap | 0.0% | 0.0% | 14 | 15 |
| Rigid Polystyrene Foam Insulation | 0.0% | 0.0% | - | - | Carpet | 0.5% | 0.3% | 158 | 102 |
| EPS Non-food Grade | 0.7% | 0.3% | 216 | 84 | Felt Carpet Pad | 0.2% | 0.2% | 58 | 49 |
| Large Durable Plastic Products | 0.4% | 0.4% | 132 | 132 | Fiberglass Insulation | 0.0% | 0.0% | 9 | 6 |
| Small Durable Plastic Products | 1.1% | 0.2% | 343 | 56 | Rock or Concrete or Brick | 0.8% | 0.6% | 255 | 178 |
| Plastic or Other Materials | 1.1% | 0.4% | 351 | 120 | Ceramics | 0.4% | 0.3% | 133 | 89 |
| GLASS | 3.9% | 0.4% | 1,251 | 128 | Asphaltic Roofing | 0.1% | 0.2% | 47 | 68 |
| Clear Beverage Glass Bottles | 0.5% | 0.1% | 172 | 39 | Other Construction Debris | 0.7% | 0.5% | 233 | 157 |
| Green Beverage Glass Bottles | 0.4% | 0.1% | 128 | 41 | Liquid Latex Paints | 0.1% | 0.2% | 47 | 51 |
| Brown Beverage Glass Bottles | 0.2% | 0.1% | 74 | 28 | HAZARDOUS WASTE | 0.9% | 0.5% | 285 | 152 |
| Container Glass | 0.4% | 0.2% | 138 | 50 | Oil-based Paints | 0.0% | 0.0% | 2 | 3 |
| Other Glass | 0.2% | 0.1% | 78 | 29 | Other Potentially Harmful Wastes | 0.1% | 0.0% | 24 | 12 |
| Mixed Cullet | 2.1% | 0.3% | 660 | 104 | Medical Waste | 0.5% | 0.4% | 145 | 127 |
| METAL | 4.1% | 0.6% | 1,318 | 194 | Non-Caustic Cleaners or Chemicals | 0.0% | 0.0% | 9 | 7 |
| Aluminum Cans | 0.3% | 0.0% | 89 | 13 | Pharmaceuticals and Medications | 0.0% | 0.0% | 6 | 3 |
| Aluminum Foil or Containers | 0.5% | 0.1% | 154 | 24 | Vitamins and Supplements | 0.0% | 0.0% | 8 | 6 |
| Other Nonferrous Metal | 0.0% | 0.0% | 4 | 3 | Personal Care or Cosmetics | 0.3% | 0.1% | 91 | 28 |
| Other Aluminum | 0.1% | 0.1% | 34 | 24 | FINES AND MISC | 4.0% | 1.3% | 1,283 | 413 |
| Empty Aerosol Cans | 0.1% | 0.0% | 43 | 12 | Sand, Soil or Dirt | 0.6% | 0.6% | 192 | 181 |
| Steel Food Cans | 0.6% | 0.1% | 185 | 31 | Non-distinct Fines | 1.0% | 0.2% | 315 | 72 |
| Other Ferrous Metal | 1.4% | 0.4% | 441 | 129 | Misc Organics | 1.5% | 0.6% | 488 | 206 |
| Mixed Metals or Materials | 1.1% | 0.3% | 361 | 95 | Misc Inorganics | 0.6% | 0.2% | 192 | 67 |
| Metal Oil Filters | 0.0% | 0.0% | 8 | 8 | PPE | 0.3% | 0.1% | 95 | 21 |
| Estimated Total | 100% | | 32,197 | | | | | | |
| Sample Count | | | 73 | | | | | | |

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

Table 38: Composition – Recycling– Zone 2

| Material | Est. Percent | + / - | Est. Tons | Tons +/- | Material | Est. Percent | + / - | Est. Tons | Tons +/- |
|--------------------------------------------|--------------|-------------|---------------|------------|-----------------------------------|--------------|-------------|------------|------------|
| PAPER | 56.6% | 2.6% | 13,749 | 626 | COMPOSTABLE ORGANICS | 0.8% | 0.2% | 184 | 59 |
| Newspaper | 7.1% | 1.0% | 1,727 | 242 | Leaves and Grass | 0.0% | 0.0% | 8 | 9 |
| Plain OCC or Kraft Paper | 20.8% | 2.2% | 5,054 | 543 | Prunings | 0.0% | 0.0% | - | - |
| Grocery or Shopping Bags | 4.2% | 0.4% | 1,009 | 98 | Fats, Oils, and Grease | 0.0% | 0.0% | 0 | 0 |
| Paper Packaging | 7.2% | 0.5% | 1,757 | 123 | Edible Food Scraps - Packaged | 0.4% | 0.2% | 105 | 43 |
| Paper Products | 14.2% | 0.8% | 3,464 | 199 | Edible Food Scraps - Non-Packaged | 0.1% | 0.0% | 14 | 7 |
| Compostable or Soiled Paper Products | 0.4% | 0.1% | 97 | 23 | Non-Edible Food Scraps | 0.2% | 0.1% | 52 | 14 |
| Compostable Food Service Paper Packaging | 0.2% | 0.0% | 53 | 8 | Other Compostable Organics | 0.0% | 0.0% | 4 | 3 |
| Non-Comp Food Service Paper Packaging | 0.2% | 0.0% | 48 | 6 | OTHER ORGANICS | 0.8% | 0.3% | 193 | 66 |
| Waxed OCC or Kraft Paper | 0.1% | 0.1% | 26 | 31 | Textiles | 0.4% | 0.1% | 91 | 23 |
| Shredded Paper | 0.0% | 0.0% | 10 | 12 | Mixed Textiles | 0.3% | 0.2% | 65 | 53 |
| Aseptic Containers | 0.3% | 0.0% | 68 | 10 | Disposable Diapers | 0.1% | 0.0% | 31 | 7 |
| Gable Top Containers | 0.9% | 0.1% | 213 | 23 | Animal By-products | 0.0% | 0.0% | 3 | 3 |
| Other Polycoated Containers | 0.1% | 0.0% | 25 | 6 | Rubber Products | 0.0% | 0.0% | 3 | 3 |
| Mixed or Other Paper | 0.8% | 0.2% | 196 | 41 | Tires | 0.0% | 0.0% | - | - |
| PLASTIC | 9.8% | 0.6% | 2,390 | 148 | FURNITURE AND ELECTRONICS | 0.0% | 0.0% | 12 | 7 |
| PET Bottles | 2.6% | 0.2% | 632 | 54 | Furniture | 0.0% | 0.0% | - | - |
| HDPE Natural Bottles | 0.6% | 0.1% | 158 | 21 | Mattresses | 0.0% | 0.0% | - | - |
| HDPE Colored Bottles | 0.6% | 0.1% | 142 | 18 | Small Appliances | 0.0% | 0.0% | 3 | 5 |
| PP Bottles | 0.1% | 0.1% | 31 | 22 | Fluorescent Tubes and CFLs | 0.0% | 0.0% | 1 | 1 |
| Other Plastic Bottles | 0.0% | 0.0% | 5 | 3 | LED Lighting | 0.0% | 0.0% | - | - |
| PET Non-Bottle Packaging | 1.5% | 0.1% | 361 | 29 | Rechargeable Batteries | 0.0% | 0.0% | - | - |
| HDPE Non-Bottle Packaging | 0.2% | 0.0% | 52 | 9 | Other Dry-cell Batteries | 0.0% | 0.0% | 3 | 2 |
| PP Non-Bottle Packaging | 1.3% | 0.1% | 309 | 36 | Wet-cell Batteries | 0.0% | 0.0% | - | - |
| Other Non-Bottle Plastic Packaging | 0.3% | 0.0% | 75 | 11 | E-Cycle WA Electronics | 0.0% | 0.0% | 3 | 3 |
| Compostable Food Service Plastic Utensils | 0.0% | 0.0% | 1 | 1 | Non-E-Cycle WA Electronics | 0.0% | 0.0% | 2 | 2 |
| Compostable Food Service Plastic Packaging | 0.0% | 0.0% | 9 | 4 | C&D | 0.2% | 0.1% | 56 | 19 |
| Non-Comp Food Service Plastic Packaging | 0.0% | 0.0% | 4 | 1 | Clean Dimension Lumber | 0.0% | 0.0% | 7 | 7 |
| Non-Comp Food Service Plastic Packaging | 0.4% | 0.1% | 89 | 12 | Clean Engineered Wood | 0.1% | 0.1% | 24 | 12 |
| Takeout and Retail Plastic Bags | 0.1% | 0.0% | 22 | 4 | Other Untreated Wood | 0.0% | 0.0% | 1 | 1 |
| Other Clean PE Film | 0.4% | 0.1% | 89 | 26 | Crates or Boxes or Pallets | 0.0% | 0.0% | 1 | 1 |
| Stretch Wrap | 0.0% | 0.0% | 1 | 1 | New Painted Wood | 0.0% | 0.0% | 1 | 1 |
| Other Plastic Film | 0.5% | 0.1% | 133 | 33 | Old Painted Wood | 0.0% | 0.0% | 4 | 5 |
| Mailers | 0.1% | 0.0% | 36 | 7 | Creosote-treated Wood | 0.0% | 0.0% | - | - |
| Pouches | 0.0% | 0.0% | 8 | 3 | Other Treated Wood | 0.0% | 0.0% | 0 | 0 |
| Compostable Plastic Bags | 0.0% | 0.0% | 0 | 0 | Contaminated Wood | 0.0% | 0.0% | 1 | 1 |
| Plastic Garbage Bags | 0.2% | 0.0% | 37 | 6 | New Gypsum Scrap | 0.0% | 0.0% | - | - |
| EPS Food-grade | 0.0% | 0.0% | 6 | 2 | Demo Gypsum Scrap | 0.0% | 0.0% | - | - |
| Rigid Polystyrene Foam Insulation | 0.0% | 0.0% | 0 | 0 | Carpet | 0.0% | 0.0% | - | - |
| EPS Non-food Grade | 0.1% | 0.0% | 33 | 12 | Felt Carpet Pad | 0.0% | 0.0% | - | - |
| Large Durable Plastic Products | 0.0% | 0.0% | 7 | 4 | Fiberglass Insulation | 0.0% | 0.0% | 1 | 2 |
| Small Durable Plastic Products | 0.4% | 0.1% | 96 | 36 | Rock or Concrete or Brick | 0.0% | 0.1% | 9 | 13 |
| Plastic or Other Materials | 0.2% | 0.1% | 51 | 17 | Ceramics | 0.0% | 0.0% | 7 | 4 |
| GLASS | 23.6% | 1.9% | 5,731 | 467 | Asphaltic Roofing | 0.0% | 0.0% | - | - |
| Clear Beverage Glass Bottles | 5.0% | 0.6% | 1,228 | 150 | Other Construction Debris | 0.0% | 0.0% | 1 | 2 |
| Green Beverage Glass Bottles | 6.1% | 0.8% | 1,475 | 185 | Liquid Latex Paints | 0.0% | 0.0% | - | - |
| Brown Beverage Glass Bottles | 2.6% | 0.6% | 634 | 137 | HAZARDOUS WASTE | 0.1% | 0.0% | 12 | 9 |
| Container Glass | 2.1% | 0.4% | 500 | 87 | Oil-based Paints | 0.0% | 0.0% | - | - |
| Other Glass | 0.1% | 0.1% | 30 | 14 | Other Potentially Harmful Wastes | 0.0% | 0.0% | 2 | 2 |
| Mixed Cullet | 7.7% | 1.1% | 1,864 | 277 | Medical Waste | 0.0% | 0.0% | - | - |
| METAL | 6.2% | 0.6% | 1,503 | 153 | Non-Caustic Cleaners or Chemicals | 0.0% | 0.0% | 2 | 3 |
| Aluminum Cans | 2.5% | 0.2% | 598 | 55 | Pharmaceuticals and Medications | 0.0% | 0.0% | 0 | 1 |
| Aluminum Foil or Containers | 0.2% | 0.0% | 44 | 10 | Vitamins and Supplements | 0.0% | 0.0% | 0 | 0 |
| Other Nonferrous Metal | 0.2% | 0.1% | 47 | 34 | Personal Care or Cosmetics | 0.0% | 0.0% | 8 | 6 |
| Other Aluminum | 0.0% | 0.0% | 6 | 5 | FINES AND MISC | 2.0% | 0.7% | 479 | 167 |
| Empty Aerosol Cans | 0.1% | 0.0% | 14 | 5 | Sand, Soil or Dirt | 0.0% | 0.0% | - | - |
| Steel Food Cans | 1.9% | 0.2% | 474 | 42 | Non-distinct Fines | 1.7% | 0.7% | 425 | 163 |
| Other Ferrous Metal | 0.8% | 0.3% | 190 | 78 | Misc Organics | 0.1% | 0.1% | 17 | 13 |
| Mixed Metals or Materials | 0.5% | 0.2% | 131 | 52 | Misc Inorganics | 0.1% | 0.1% | 27 | 25 |
| Metal Oil Filters | 0.0% | 0.0% | - | - | PPE | 0.0% | 0.0% | 10 | 6 |
| Estimated Total | 100% | | 24,309 | | | | | | |
| Sample Count | | | | 72 | | | | | |

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

Table 39: Composition – Garbage – Zone 3

| Material | Est. Percent | + / - | Est. Tons | Tons +/- | Material | Est. Percent | + / - | Est. Tons | Tons +/- |
|--------------------------------------------|--------------|-------------|---------------|------------|-----------------------------------|--------------|-------------|--------------|------------|
| PAPER | 22.7% | 1.3% | 9,094 | 522 | COMPOSTABLE ORGANICS | 20.0% | 1.9% | 8,006 | 744 |
| Newspaper | 0.5% | 0.1% | 190 | 59 | Leaves and Grass | 1.1% | 0.8% | 451 | 339 |
| Plain OCC or Kraft Paper | 2.1% | 0.4% | 846 | 161 | Prunings | 0.2% | 0.1% | 100 | 38 |
| Grocery or Shopping Bags | 1.7% | 0.3% | 685 | 121 | Fats, Oils, and Grease | 0.0% | 0.0% | 15 | 10 |
| Paper Packaging | 2.0% | 0.3% | 810 | 103 | Edible Food Scraps - Packaged | 9.0% | 1.0% | 3,589 | 381 |
| Paper Products | 2.9% | 0.6% | 1,151 | 243 | Edible Food Scraps - Non-Packaged | 4.0% | 0.8% | 1,610 | 314 |
| Compostable or Soiled Paper Products | 9.0% | 0.8% | 3,606 | 310 | Non-Edible Food Scraps | 5.5% | 0.9% | 2,191 | 370 |
| Compostable Food Service Paper Packaging | 1.1% | 0.2% | 438 | 99 | Other Compostable Organics | 0.1% | 0.0% | 50 | 11 |
| Non-Comp Food Service Paper Packaging | 1.3% | 0.2% | 511 | 73 | OTHER ORGANICS | 18.5% | 1.7% | 7,378 | 697 |
| Waxed OCC or Kraft Paper | 0.0% | 0.0% | 7 | 7 | Textiles | 3.5% | 0.8% | 1,410 | 303 |
| Shredded Paper | 0.1% | 0.1% | 32 | 29 | Mixed Textiles | 2.3% | 0.5% | 932 | 202 |
| Aseptic Containers | 0.2% | 0.0% | 67 | 12 | Disposable Diapers | 6.0% | 1.0% | 2,384 | 414 |
| Gable Top Containers | 0.2% | 0.1% | 89 | 22 | Animal By-products | 6.2% | 1.3% | 2,459 | 501 |
| Other Polycoated Containers | 0.2% | 0.0% | 62 | 12 | Rubber Products | 0.4% | 0.2% | 151 | 86 |
| Mixed or Other Paper | 1.5% | 0.4% | 599 | 164 | Tires | 0.1% | 0.1% | 41 | 54 |
| PLASTIC | 17.9% | 1.2% | 7,162 | 467 | FURNITURE AND ELECTRONICS | 0.7% | 0.5% | 274 | 194 |
| PET Bottles | 1.0% | 0.1% | 409 | 53 | Furniture | 0.0% | 0.0% | - | - |
| HDPE Natural Bottles | 0.3% | 0.0% | 101 | 19 | Mattresses | 0.0% | 0.0% | - | - |
| HDPE Colored Bottles | 0.4% | 0.1% | 145 | 37 | Small Appliances | 0.0% | 0.0% | 13 | 12 |
| PP Bottles | 0.0% | 0.0% | 18 | 8 | Fluorescent Tubes and CFLs | 0.0% | 0.1% | 18 | 21 |
| Other Plastic Bottles | 0.0% | 0.0% | 7 | 4 | LED Lighting | 0.0% | 0.0% | 4 | 2 |
| PET Non-Bottle Packaging | 0.7% | 0.1% | 280 | 48 | Rechargeable Batteries | 0.0% | 0.0% | 3 | 5 |
| HDPE Non-Bottle Packaging | 0.1% | 0.0% | 27 | 9 | Other Dry-cell Batteries | 0.0% | 0.0% | 18 | 6 |
| PP Non-Bottle Packaging | 1.3% | 0.2% | 538 | 80 | Wet-cell Batteries | 0.0% | 0.0% | - | - |
| Other Non-Bottle Plastic Packaging | 0.6% | 0.1% | 225 | 22 | E-Cycle WA Electronics | 0.3% | 0.4% | 113 | 167 |
| Compostable Food Service Plastic Utensils | 0.0% | 0.0% | 15 | 8 | Non-E-Cycle WA Electronics | 0.3% | 0.2% | 106 | 88 |
| Compostable Food Service Plastic Packaging | 0.1% | 0.0% | 39 | 12 | C&D | 4.3% | 1.2% | 1,702 | 488 |
| Non-Comp Food Service Plastic Utensils | 0.1% | 0.0% | 34 | 8 | Clean Dimension Lumber | 0.6% | 0.3% | 257 | 138 |
| Non-Comp Food Service Plastic Packaging | 0.7% | 0.4% | 270 | 173 | Clean Engineered Wood | 0.6% | 0.2% | 224 | 93 |
| Takeout and Retail Plastic Bags | 0.5% | 0.1% | 183 | 24 | Other Untreated Wood | 0.0% | 0.0% | 12 | 19 |
| Other Clean PE Film | 0.4% | 0.2% | 147 | 66 | Crates or Boxes or Pallets | 0.0% | 0.0% | 12 | 19 |
| Stretch Wrap | 0.1% | 0.1% | 32 | 31 | New Painted Wood | 0.2% | 0.1% | 77 | 49 |
| Other Plastic Film | 5.5% | 0.5% | 2,191 | 204 | Old Painted Wood | 0.0% | 0.0% | 0 | 0 |
| Mailers | 0.2% | 0.0% | 85 | 16 | Creosote-treated Wood | 0.0% | 0.0% | - | - |
| Pouches | 0.1% | 0.0% | 57 | 10 | Other Treated Wood | 0.1% | 0.2% | 55 | 80 |
| Compostable Plastic Bags | 0.1% | 0.1% | 48 | 33 | Contaminated Wood | 0.5% | 0.3% | 207 | 132 |
| Plastic Garbage Bags | 2.2% | 0.3% | 867 | 120 | New Gypsum Scrap | 0.1% | 0.2% | 41 | 65 |
| EPS Food-grade | 0.3% | 0.1% | 101 | 20 | Demol Gypsum Scrap | 0.1% | 0.2% | 49 | 74 |
| Rigid Polystyrene Foam Insulation | 0.0% | 0.0% | - | - | Carpet | 1.1% | 0.8% | 429 | 326 |
| EPS Non-food Grade | 0.6% | 0.1% | 239 | 51 | Felt Carpet Pad | 0.0% | 0.0% | - | - |
| Large Durable Plastic Products | 0.3% | 0.1% | 100 | 49 | Fiberglass Insulation | 0.0% | 0.0% | 1 | 1 |
| Small Durable Plastic Products | 1.4% | 0.3% | 554 | 138 | Rock or Concrete or Brick | 0.2% | 0.2% | 71 | 70 |
| Plastic or Other Materials | 1.1% | 0.5% | 449 | 204 | Ceramics | 0.3% | 0.1% | 106 | 37 |
| GLASS | 5.9% | 0.8% | 2,356 | 308 | Asphaltic Roofing | 0.0% | 0.0% | 2 | 3 |
| Clear Beverage Glass Bottles | 0.8% | 0.2% | 322 | 77 | Other Construction Debris | 0.4% | 0.5% | 152 | 208 |
| Green Beverage Glass Bottles | 0.9% | 0.8% | 362 | 329 | Liquid Latex Paints | 0.0% | 0.0% | 8 | 8 |
| Brown Beverage Glass Bottles | 0.2% | 0.1% | 89 | 29 | HAZARDOUS WASTE | 2.0% | 1.1% | 817 | 420 |
| Container Glass | 0.5% | 0.2% | 204 | 61 | Oil-based Paints | 0.3% | 0.5% | 128 | 185 |
| Other Glass | 0.4% | 0.1% | 160 | 43 | Other Potentially Harmful Wastes | 0.3% | 0.3% | 103 | 122 |
| Mixed Cullet | 3.0% | 0.5% | 1,218 | 218 | Medical Waste | 1.1% | 0.7% | 435 | 296 |
| METAL | 4.9% | 0.7% | 1,962 | 283 | Non-Caustic Cleaners or Chemicals | 0.0% | 0.0% | 14 | 12 |
| Aluminum Cans | 0.4% | 0.0% | 161 | 19 | Pharmaceuticals and Medications | 0.1% | 0.1% | 31 | 27 |
| Aluminum Foil or Containers | 0.4% | 0.1% | 177 | 29 | Vitamins and Supplements | 0.1% | 0.1% | 39 | 31 |
| Other Nonferrous Metal | 0.0% | 0.0% | 6 | 8 | Personal Care or Cosmetics | 0.2% | 0.1% | 67 | 23 |
| Other Aluminum | 0.2% | 0.1% | 61 | 31 | FINES AND MISC | 3.1% | 0.5% | 1,230 | 192 |
| Empty Aerosol Cans | 0.1% | 0.0% | 54 | 13 | Sand, Soil or Dirt | 0.4% | 0.3% | 167 | 114 |
| Steel Food Cans | 0.6% | 0.1% | 240 | 37 | Non-distinct Fines | 1.1% | 0.3% | 421 | 107 |
| Other Ferrous Metal | 1.0% | 0.3% | 393 | 107 | Misc Organics | 0.8% | 0.4% | 328 | 140 |
| Mixed Metals or Materials | 2.2% | 0.6% | 867 | 259 | Misc Inorganics | 0.5% | 0.2% | 196 | 64 |
| Metal Oil Filters | 0.0% | 0.0% | 3 | 4 | PPE | 0.3% | 0.1% | 119 | 32 |
| Estimated Total | 100% | | 39,981 | | | | | | |
| Sample Count | | | 72 | | | | | | |

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

Table 40: Composition –Recycling – Zone 3

| Material | Est. Percent | + / - | Est. Tons | Tons +/- | Material | Est. Percent | + / - | Est. Tons | Tons +/- |
|--------------------------------------------|--------------|-------------|---------------|------------|-----------------------------------|--------------|-------------|------------|-----------|
| PAPER | 51.2% | 3.0% | 7,294 | 431 | COMPOSTABLE ORGANICS | 1.1% | 0.4% | 160 | 56 |
| Newspaper | 4.8% | 0.8% | 684 | 114 | Leaves and Grass | 0.0% | 0.0% | 1 | 2 |
| Plain OCC or Kraft Paper | 18.9% | 2.1% | 2,685 | 296 | Prunings | 0.0% | 0.0% | 1 | 1 |
| Grocery or Shopping Bags | 3.9% | 0.6% | 549 | 81 | Fats, Oils, and Grease | 0.0% | 0.0% | 1 | 2 |
| Paper Packaging | 6.2% | 0.6% | 884 | 89 | Edible Food Scraps - Packaged | 0.6% | 0.3% | 89 | 47 |
| Paper Products | 13.4% | 1.1% | 1,901 | 151 | Edible Food Scraps - Non-Packaged | 0.1% | 0.1% | 18 | 9 |
| Compostable or Soiled Paper Products | 0.6% | 0.1% | 79 | 20 | Non-Edible Food Scraps | 0.3% | 0.1% | 38 | 14 |
| Compostable Food Service Paper Packaging | 0.3% | 0.1% | 36 | 9 | Other Compostable Organics | 0.1% | 0.0% | 10 | 7 |
| Non-Comp Food Service Paper Packaging | 0.3% | 0.0% | 43 | 7 | OTHER ORGANICS | 0.7% | 0.2% | 93 | 27 |
| Waxed OCC or Kraft Paper | 0.1% | 0.1% | 12 | 18 | Textiles | 0.3% | 0.1% | 43 | 17 |
| Shredded Paper | 0.0% | 0.0% | 6 | 6 | Mixed Textiles | 0.1% | 0.1% | 15 | 8 |
| Aseptic Containers | 0.2% | 0.0% | 30 | 6 | Disposable Diapers | 0.1% | 0.1% | 19 | 15 |
| Gable Top Containers | 0.7% | 0.1% | 101 | 11 | Animal By-products | 0.1% | 0.1% | 11 | 11 |
| Other Polycoated Containers | 0.1% | 0.0% | 12 | 3 | Rubber Products | 0.0% | 0.0% | 4 | 4 |
| Mixed or Other Paper | 1.9% | 0.9% | 271 | 123 | Tires | 0.0% | 0.0% | 1 | 2 |
| PLASTIC | 9.1% | 0.9% | 1,301 | 135 | FURNITURE AND ELECTRONICS | 0.1% | 0.0% | 9 | 4 |
| PET Bottles | 2.1% | 0.2% | 302 | 29 | Furniture | 0.0% | 0.0% | - | - |
| HDPE Natural Bottles | 0.5% | 0.1% | 65 | 13 | Mattresses | 0.0% | 0.0% | - | - |
| HDPE Colored Bottles | 0.6% | 0.1% | 84 | 11 | Small Appliances | 0.0% | 0.0% | 3 | 3 |
| PP Bottles | 0.1% | 0.0% | 8 | 5 | Fluorescent Tubes and CFLs | 0.0% | 0.0% | - | - |
| Other Plastic Bottles | 0.0% | 0.0% | 3 | 1 | LED Lighting | 0.0% | 0.0% | 0 | 0 |
| PET Non-Bottle Packaging | 1.3% | 0.2% | 191 | 29 | Rechargeable Batteries | 0.0% | 0.0% | - | - |
| HDPE Non-Bottle Packaging | 0.2% | 0.1% | 31 | 17 | Other Dry-cell Batteries | 0.0% | 0.0% | 2 | 1 |
| PP Non-Bottle Packaging | 1.0% | 0.2% | 146 | 24 | Wet-cell Batteries | 0.0% | 0.0% | - | - |
| Other Non-Bottle Plastic Packaging | 0.3% | 0.1% | 49 | 9 | E-Cycle WA Electronics | 0.0% | 0.0% | - | - |
| Compostable Food Service Plastic Utensils | 0.0% | 0.0% | 0 | 0 | Non-E-Cycle WA Electronics | 0.0% | 0.0% | 4 | 2 |
| Compostable Food Service Plastic Packaging | 0.0% | 0.0% | 4 | 1 | C&D | 0.4% | 0.1% | 63 | 18 |
| Non-Comp Food Service Plastic Utensils | 0.0% | 0.0% | 4 | 4 | Clean Dimension Lumber | 0.0% | 0.0% | 2 | 1 |
| Non-Comp Food Service Plastic Packaging | 0.3% | 0.1% | 46 | 11 | Clean Engineered Wood | 0.0% | 0.0% | 3 | 3 |
| Takeout and Retail Plastic Bags | 0.2% | 0.0% | 24 | 7 | Other Untreated Wood | 0.0% | 0.0% | 4 | 7 |
| Other Clean PE Film | 0.3% | 0.1% | 46 | 9 | Crates or Boxes or Pallets | 0.0% | 0.0% | 1 | 1 |
| Stretch Wrap | 0.0% | 0.0% | - | - | New Painted Wood | 0.0% | 0.0% | 5 | 3 |
| Other Plastic Film | 0.7% | 0.3% | 101 | 50 | Old Painted Wood | 0.0% | 0.0% | 1 | 2 |
| Mailers | 0.1% | 0.0% | 17 | 3 | Creosote-treated Wood | 0.0% | 0.0% | - | - |
| Pouches | 0.0% | 0.0% | 3 | 1 | Other Treated Wood | 0.1% | 0.1% | 8 | 10 |
| Compostable Plastic Bags | 0.0% | 0.0% | 0 | 0 | Contaminated Wood | 0.1% | 0.1% | 9 | 9 |
| Plastic Garbage Bags | 0.2% | 0.0% | 26 | 4 | New Gypsum Scrap | 0.0% | 0.0% | - | - |
| EPS Food-grade | 0.0% | 0.0% | 3 | 1 | Demo Gypsum Scrap | 0.0% | 0.0% | 0 | 0 |
| Rigid Polystyrene Foam Insulation | 0.0% | 0.0% | - | - | Carpet | 0.0% | 0.0% | 5 | 7 |
| EPS Non-food Grade | 0.1% | 0.0% | 14 | 4 | Felt Carpet Pad | 0.0% | 0.0% | - | - |
| Large Durable Plastic Products | 0.2% | 0.1% | 27 | 18 | Fiberglass Insulation | 0.1% | 0.1% | 7 | 8 |
| Small Durable Plastic Products | 0.6% | 0.2% | 79 | 24 | Rock or Concrete or Brick | 0.0% | 0.0% | 1 | 2 |
| Plastic or Other Materials | 0.2% | 0.1% | 27 | 11 | Ceramics | 0.1% | 0.1% | 14 | 9 |
| GLASS | 29.6% | 3.2% | 4,219 | 459 | Asphaltic Roofing | 0.0% | 0.0% | - | - |
| Clear Beverage Glass Bottles | 6.0% | 0.9% | 855 | 134 | Other Construction Debris | 0.0% | 0.0% | 2 | 2 |
| Green Beverage Glass Bottles | 9.2% | 1.5% | 1,304 | 216 | Liquid Latex Paints | 0.0% | 0.0% | - | - |
| Brown Beverage Glass Bottles | 2.8% | 0.6% | 395 | 81 | HAZARDOUS WASTE | 0.2% | 0.1% | 24 | 19 |
| Container Glass | 1.8% | 0.4% | 256 | 51 | Oil-based Paints | 0.0% | 0.0% | - | - |
| Other Glass | 0.4% | 0.1% | 52 | 15 | Other Potentially Harmful Wastes | 0.1% | 0.1% | 15 | 18 |
| Mixed Cullet | 9.5% | 1.6% | 1,357 | 222 | Medical Waste | 0.0% | 0.0% | 1 | 2 |
| METAL | 5.8% | 0.9% | 832 | 134 | Non-Caustic Cleaners or Chemicals | 0.0% | 0.0% | 4 | 6 |
| Aluminum Cans | 2.4% | 0.2% | 346 | 31 | Pharmaceuticals and Medications | 0.0% | 0.0% | 0 | 1 |
| Aluminum Foil or Containers | 0.2% | 0.1% | 31 | 11 | Vitamins and Supplements | 0.0% | 0.0% | 0 | 0 |
| Other Nonferrous Metal | 0.1% | 0.0% | 8 | 3 | Personal Care or Cosmetics | 0.0% | 0.0% | 2 | 1 |
| Other Aluminum | 0.0% | 0.0% | 6 | 5 | FINES AND MISC | 1.7% | 0.6% | 242 | 86 |
| Empty Aerosol Cans | 0.0% | 0.0% | 5 | 3 | Sand, Soil or Dirt | 0.0% | 0.0% | - | - |
| Steel Food Cans | 1.3% | 0.1% | 182 | 20 | Non-distinct Fines | 1.5% | 0.6% | 216 | 84 |
| Other Ferrous Metal | 1.5% | 0.9% | 206 | 123 | Misc Organics | 0.1% | 0.1% | 19 | 11 |
| Mixed Metals or Materials | 0.3% | 0.1% | 49 | 19 | Misc Inorganics | 0.0% | 0.0% | 6 | 4 |
| Metal Oil Filters | 0.0% | 0.0% | - | - | PPE | 0.0% | 0.0% | 2 | 1 |
| Estimated Total | 100% | | 14,237 | | | | | | |
| Sample Count | | | 77 | | | | | | |

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

Table 41: Composition – Garbage – Zone 4

| Material | Est. Percent | + / - | Est. Tons | Tons +/- | Material | Est. Percent | + / - | Est. Tons | Tons +/- |
|--------------------------------------------|--------------|-------------|---------------|------------|-----------------------------------|--------------|-------------|--------------|------------|
| PAPER | 18.3% | 1.1% | 4,085 | 237 | COMPOSTABLE ORGANICS | 23.5% | 2.3% | 5,253 | 526 |
| Newspaper | 0.2% | 0.1% | 50 | 21 | Leaves and Grass | 0.6% | 0.6% | 133 | 132 |
| Plain OCC or Kraft Paper | 1.6% | 0.5% | 351 | 102 | Prunings | 0.4% | 0.3% | 84 | 74 |
| Grocery or Shopping Bags | 1.2% | 0.2% | 262 | 37 | Fats, Oils, and Grease | 0.1% | 0.1% | 24 | 17 |
| Paper Packaging | 1.3% | 0.2% | 299 | 38 | Edible Food Scraps - Packaged | 10.6% | 2.0% | 2,370 | 449 |
| Paper Products | 2.4% | 0.3% | 540 | 67 | Edible Food Scraps - Non-Packaged | 4.5% | 0.7% | 1,009 | 164 |
| Compostable or Soiled Paper Products | 8.1% | 0.8% | 1,819 | 183 | Non-Edible Food Scraps | 7.2% | 1.0% | 1,609 | 214 |
| Compostable Food Service Paper Packaging | 0.7% | 0.2% | 162 | 34 | Other Compostable Organics | 0.1% | 0.0% | 25 | 8 |
| Non-Comp Food Service Paper Packaging | 1.2% | 0.1% | 260 | 33 | OTHER ORGANICS | 23.7% | 1.9% | 5,308 | 434 |
| Waxed OCC or Kraft Paper | 0.0% | 0.0% | 6 | 5 | Textiles | 3.4% | 0.6% | 771 | 135 |
| Shredded Paper | 0.0% | 0.0% | 2 | 3 | Mixed Textiles | 1.5% | 0.5% | 346 | 109 |
| Aseptic Containers | 0.1% | 0.0% | 29 | 6 | Disposable Diapers | 8.6% | 1.5% | 1,925 | 326 |
| Gable Top Containers | 0.2% | 0.0% | 39 | 9 | Animal By-products | 9.9% | 1.2% | 2,207 | 277 |
| Other Polycoated Containers | 0.1% | 0.0% | 33 | 6 | Rubber Products | 0.2% | 0.1% | 50 | 21 |
| Mixed or Other Paper | 1.0% | 0.2% | 234 | 39 | Tires | 0.0% | 0.1% | 8 | 13 |
| PLASTIC | 15.5% | 0.8% | 3,471 | 188 | FURNITURE AND ELECTRONICS | 1.6% | 1.8% | 366 | 398 |
| PET Bottles | 0.8% | 0.2% | 185 | 36 | Furniture | 0.0% | 0.0% | - | - |
| HDPE Natural Bottles | 0.2% | 0.1% | 52 | 12 | Mattresses | 0.0% | 0.0% | - | - |
| HDPE Colored Bottles | 0.3% | 0.1% | 73 | 17 | Small Appliances | 0.0% | 0.0% | 8 | 9 |
| PP Bottles | 0.0% | 0.0% | 10 | 4 | Fluorescent Tubes and CFLs | 0.0% | 0.0% | 4 | 2 |
| Other Plastic Bottles | 0.0% | 0.0% | 2 | 1 | LED Lighting | 0.0% | 0.0% | 3 | 3 |
| PET Non-Bottle Packaging | 0.6% | 0.1% | 128 | 19 | Rechargeable Batteries | 0.0% | 0.0% | - | - |
| HDPE Non-Bottle Packaging | 0.1% | 0.0% | 29 | 9 | Other Dry-cell Batteries | 0.0% | 0.0% | 11 | 5 |
| PP Non-Bottle Packaging | 0.9% | 0.1% | 203 | 31 | Wet-cell Batteries | 1.1% | 1.4% | 246 | 316 |
| Other Non-Bottle Plastic Packaging | 0.6% | 0.1% | 125 | 18 | E-Cycle WA Electronics | 0.1% | 0.1% | 17 | 25 |
| Compostable Food Service Plastic Utensils | 0.0% | 0.0% | 4 | 1 | Non-E-Cycle WA Electronics | 0.3% | 0.3% | 77 | 63 |
| Compostable Food Service Plastic Packaging | 0.1% | 0.0% | 16 | 4 | C&D | 5.8% | 1.6% | 1,308 | 353 |
| Non-Comp Food Service Plastic Utensils | 0.1% | 0.0% | 16 | 3 | Clean Dimension Lumber | 0.6% | 0.3% | 140 | 69 |
| Non-Comp Food Service Plastic Packaging | 0.4% | 0.1% | 85 | 14 | Clean Engineered Wood | 0.4% | 0.3% | 86 | 58 |
| Takeout and Retail Plastic Bags | 0.8% | 0.1% | 169 | 31 | Other Untreated Wood | 0.0% | 0.0% | 0 | 1 |
| Other Clean PE Film | 0.6% | 0.2% | 126 | 43 | Crates or Boxes or Pallets | 0.1% | 0.2% | 30 | 46 |
| Stretch Wrap | 0.1% | 0.1% | 17 | 24 | New Painted Wood | 1.0% | 0.5% | 216 | 112 |
| Other Plastic Film | 4.9% | 0.4% | 1,106 | 87 | Old Painted Wood | 0.0% | 0.0% | 8 | 9 |
| Mailers | 0.2% | 0.0% | 43 | 8 | Creosote-treated Wood | 0.0% | 0.0% | - | - |
| Pouches | 0.2% | 0.0% | 41 | 8 | Other Treated Wood | 0.0% | 0.0% | 7 | 8 |
| Compostable Plastic Bags | 0.1% | 0.1% | 27 | 30 | Contaminated Wood | 0.2% | 0.1% | 41 | 25 |
| Plastic Garbage Bags | 1.6% | 0.2% | 359 | 35 | New Gypsum Scrap | 0.0% | 0.0% | 1 | 1 |
| EPS Food-grade | 0.4% | 0.1% | 81 | 16 | Demo Gypsum Scrap | 0.4% | 0.3% | 90 | 57 |
| Rigid Polystyrene Foam Insulation | 0.0% | 0.0% | 0 | 0 | Carpet | 0.5% | 0.2% | 103 | 55 |
| EPS Non-food Grade | 0.5% | 0.1% | 110 | 23 | Felt Carpet Pad | 0.0% | 0.0% | - | - |
| Large Durable Plastic Products | 0.3% | 0.2% | 73 | 44 | Fiberglass Insulation | 0.1% | 0.0% | 11 | 10 |
| Small Durable Plastic Products | 1.1% | 0.2% | 245 | 39 | Rock or Concrete or Brick | 0.3% | 0.2% | 56 | 51 |
| Plastic or Other Materials | 0.7% | 0.2% | 148 | 43 | Ceramics | 1.0% | 0.9% | 216 | 200 |
| GLASS | 3.8% | 0.4% | 856 | 93 | Asphaltic Roofing | 0.0% | 0.0% | 1 | 2 |
| Clear Beverage Glass Bottles | 0.6% | 0.2% | 139 | 38 | Other Construction Debris | 0.9% | 0.6% | 192 | 142 |
| Green Beverage Glass Bottles | 0.2% | 0.1% | 49 | 17 | Liquid Latex Paints | 0.5% | 0.4% | 110 | 92 |
| Brown Beverage Glass Bottles | 0.2% | 0.1% | 50 | 12 | HAZARDOUS WASTE | 0.8% | 0.3% | 179 | 66 |
| Container Glass | 0.6% | 0.1% | 127 | 29 | Oil-based Paints | 0.0% | 0.0% | - | - |
| Other Glass | 0.4% | 0.1% | 79 | 28 | Other Potentially Harmful Wastes | 0.0% | 0.0% | 11 | 7 |
| Mixed Cullet | 1.8% | 0.4% | 410 | 99 | Medical Waste | 0.3% | 0.3% | 74 | 59 |
| METAL | 3.5% | 0.4% | 782 | 100 | Non-Caustic Cleaners or Chemicals | 0.0% | 0.0% | 4 | 5 |
| Aluminum Cans | 0.3% | 0.0% | 61 | 9 | Pharmaceuticals and Medications | 0.0% | 0.0% | 3 | 2 |
| Aluminum Foil or Containers | 0.5% | 0.1% | 102 | 14 | Vitamins and Supplements | 0.0% | 0.0% | 4 | 4 |
| Other Nonferrous Metal | 0.0% | 0.0% | 3 | 3 | Personal Care or Cosmetics | 0.4% | 0.1% | 83 | 27 |
| Other Aluminum | 0.1% | 0.1% | 28 | 18 | FINES AND MISC | 3.5% | 0.8% | 774 | 189 |
| Empty Aerosol Cans | 0.2% | 0.0% | 40 | 9 | Sand, Soil or Dirt | 0.3% | 0.3% | 73 | 78 |
| Steel Food Cans | 0.5% | 0.1% | 111 | 17 | Non-distinct Fines | 1.0% | 0.2% | 218 | 52 |
| Other Ferrous Metal | 0.9% | 0.3% | 191 | 73 | Misc Organics | 1.6% | 0.7% | 358 | 158 |
| Mixed Metals or Materials | 1.1% | 0.3% | 246 | 58 | Misc Inorganics | 0.3% | 0.1% | 75 | 16 |
| Metal Oil Filters | 0.0% | 0.0% | 1 | 1 | PPE | 0.2% | 0.1% | 49 | 11 |
| Estimated Total | 100% | | 22,383 | | | | | | |
| Sample Count | | | 72 | | | | | | |

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

Table 42: Composition – Recycling – Zone 4

| Material | Est. Percent | +/- | Est. Tons | Tons +/- | Material | Est. Percent | +/- | Est. Tons | Tons +/- |
|--------------------------------------------|--------------|-------------|---------------|--------------|-----------------------------------|--------------|-------------|------------|------------|
| PAPER | 51.4% | 4.4% | 15,745 | 1,354 | COMPOSTABLE ORGANICS | 2.7% | 1.0% | 821 | 314 |
| Newspaper | 3.3% | 0.7% | 996 | 216 | Leaves and Grass | 0.0% | 0.0% | 4 | 5 |
| Plain OCC or Kraft Paper | 20.5% | 3.3% | 6,276 | 1,011 | Prunings | 0.0% | 0.0% | 7 | 6 |
| Grocery or Shopping Bags | 2.6% | 0.4% | 808 | 135 | Fats, Oils, and Grease | 0.0% | 0.0% | - | - |
| Paper Packaging | 6.4% | 0.9% | 1,969 | 288 | Edible Food Scraps - Packaged | 1.8% | 0.8% | 559 | 258 |
| Paper Products | 14.8% | 2.4% | 4,530 | 723 | Edible Food Scraps - Non-Packaged | 0.3% | 0.1% | 86 | 44 |
| Compostable or Soiled Paper Products | 0.6% | 0.1% | 190 | 42 | Non-Edible Food Scraps | 0.5% | 0.3% | 155 | 93 |
| Compostable Food Service Paper Packaging | 0.2% | 0.1% | 76 | 27 | Other Compostable Organics | 0.0% | 0.0% | 10 | 9 |
| Non-Comp Food Service Paper Packaging | 0.3% | 0.1% | 106 | 29 | OTHER ORGANICS | 1.4% | 0.6% | 443 | 190 |
| Waxed OCC or Kraft Paper | 0.6% | 0.4% | 178 | 137 | Textiles | 0.5% | 0.5% | 163 | 149 |
| Shredded Paper | 0.2% | 0.1% | 53 | 27 | Mixed Textiles | 0.3% | 0.2% | 89 | 60 |
| Aseptic Containers | 0.2% | 0.0% | 74 | 13 | Disposable Diapers | 0.2% | 0.1% | 50 | 22 |
| Gable Top Containers | 0.5% | 0.1% | 147 | 16 | Animal By-products | 0.2% | 0.2% | 55 | 59 |
| Other Polycoated Containers | 0.1% | 0.0% | 29 | 8 | Rubber Products | 0.3% | 0.3% | 86 | 78 |
| Mixed or Other Paper | 1.0% | 0.2% | 313 | 73 | Tires | 0.0% | 0.0% | - | - |
| PLASTIC | 10.5% | 1.1% | 3,223 | 323 | FURNITURE AND ELECTRONICS | 1.7% | 1.7% | 513 | 519 |
| PET Bottles | 2.9% | 0.5% | 886 | 143 | Furniture | 0.0% | 0.0% | - | - |
| HDPE Natural Bottles | 0.5% | 0.1% | 162 | 24 | Mattresses | 0.0% | 0.0% | - | - |
| HDPE Colored Bottles | 0.6% | 0.1% | 181 | 28 | Small Appliances | 1.5% | 1.7% | 470 | 519 |
| PP Bottles | 0.1% | 0.0% | 24 | 6 | Fluorescent Tubes and CFLs | 0.0% | 0.0% | 1 | 1 |
| Other Plastic Bottles | 0.0% | 0.0% | 10 | 5 | LED Lighting | 0.0% | 0.0% | - | - |
| PET Non-Bottle Packaging | 1.1% | 0.1% | 328 | 43 | Rechargeable Batteries | 0.0% | 0.0% | 1 | 2 |
| HDPE Non-Bottle Packaging | 0.6% | 0.8% | 195 | 242 | Other Dry-cell Batteries | 0.0% | 0.0% | 6 | 4 |
| PP Non-Bottle Packaging | 0.9% | 0.2% | 284 | 50 | Wet-cell Batteries | 0.0% | 0.0% | - | - |
| Other Non-Bottle Plastic Packaging | 0.4% | 0.1% | 122 | 23 | E-Cycle WA Electronics | 0.0% | 0.0% | 0 | 1 |
| Compostable Food Service Plastic Utensils | 0.0% | 0.0% | 1 | 1 | Non-E-Cycle WA Electronics | 0.1% | 0.1% | 34 | 25 |
| Compostable Food Service Plastic Packaging | 0.0% | 0.0% | 9 | 4 | C&D | 0.5% | 0.2% | 155 | 61 |
| Non-Comp Food Service Plastic Packaging | 0.0% | 0.0% | 8 | 2 | Clean Dimension Lumber | 0.1% | 0.1% | 24 | 18 |
| Non-Comp Food Service Plastic Packaging | 0.3% | 0.1% | 91 | 20 | Clean Engineered Wood | 0.1% | 0.1% | 32 | 27 |
| Takeout and Retail Plastic Bags | 0.2% | 0.1% | 76 | 17 | Other Untreated Wood | 0.0% | 0.0% | 0 | 0 |
| Other Clean PE Film | 0.3% | 0.1% | 104 | 17 | Crates or Boxes or Pallets | 0.0% | 0.0% | - | - |
| Stretch Wrap | 0.1% | 0.1% | 21 | 24 | New Painted Wood | 0.0% | 0.0% | 11 | 8 |
| Other Plastic Film | 0.7% | 0.1% | 220 | 46 | Old Painted Wood | 0.0% | 0.0% | 1 | 1 |
| Mailers | 0.1% | 0.0% | 35 | 9 | Creosote-treated Wood | 0.0% | 0.0% | - | - |
| Pouches | 0.0% | 0.0% | 9 | 3 | Other Treated Wood | 0.0% | 0.0% | 1 | 1 |
| Compostable Plastic Bags | 0.0% | 0.0% | 1 | 0 | Contaminated Wood | 0.0% | 0.0% | 7 | 6 |
| Plastic Garbage Bags | 0.2% | 0.1% | 73 | 24 | New Gypsum Scrap | 0.0% | 0.0% | - | - |
| EPS Food-grade | 0.0% | 0.0% | 10 | 5 | Demo Gypsum Scrap | 0.0% | 0.0% | 1 | 2 |
| Rigid Polystyrene Foam Insulation | 0.0% | 0.0% | - | - | Carpet | 0.0% | 0.0% | 0 | 0 |
| EPS Non-food Grade | 0.1% | 0.0% | 36 | 12 | Felt Carpet Pad | 0.1% | 0.2% | 35 | 56 |
| Large Durable Plastic Products | 0.2% | 0.2% | 55 | 48 | Fiberglass Insulation | 0.0% | 0.0% | 1 | 1 |
| Small Durable Plastic Products | 0.6% | 0.1% | 189 | 42 | Rock or Concrete or Brick | 0.0% | 0.0% | 2 | 4 |
| Plastic or Other Materials | 0.3% | 0.1% | 91 | 43 | Ceramics | 0.1% | 0.1% | 39 | 21 |
| GLASS | 24.7% | 2.5% | 7,575 | 772 | Asphaltic Roofing | 0.0% | 0.0% | 0 | 0 |
| Clear Beverage Glass Bottles | 6.3% | 1.0% | 1,938 | 308 | Other Construction Debris | 0.0% | 0.0% | - | - |
| Green Beverage Glass Bottles | 6.6% | 1.0% | 2,024 | 319 | Liquid Latex Paints | 0.02% | 0.0% | - | - |
| Brown Beverage Glass Bottles | 2.8% | 0.8% | 854 | 250 | HAZARDOUS WASTE | 0.4% | 0.5% | 130 | 141 |
| Container Glass | 1.6% | 0.2% | 493 | 73 | Oil-based Paints | 0.0% | 0.0% | - | - |
| Other Glass | 0.2% | 0.1% | 76 | 26 | Other Potentially Harmful Wastes | 0.0% | 0.0% | 11 | 13 |
| Mixed Cullet | 7.1% | 1.3% | 2,189 | 393 | Medical Waste | 0.3% | 0.5% | 99 | 138 |
| METAL | 5.4% | 0.6% | 1,669 | 180 | Non-Caustic Cleaners or Chemicals | 0.0% | 0.0% | 2 | 3 |
| Aluminum Cans | 2.0% | 0.2% | 606 | 65 | Pharmaceuticals and Medications | 0.0% | 0.0% | 4 | 4 |
| Aluminum Foil or Containers | 0.2% | 0.0% | 58 | 15 | Vitamins and Supplements | 0.0% | 0.0% | - | - |
| Other Nonferrous Metal | 0.1% | 0.0% | 18 | 7 | Personal Care or Cosmetics | 0.0% | 0.1% | 15 | 16 |
| Other Aluminum | 0.1% | 0.1% | 35 | 25 | FINES AND MISC | 1.2% | 0.3% | 363 | 85 |
| Empty Aerosol Cans | 0.1% | 0.0% | 20 | 11 | Sand, Soil or Dirt | 0.0% | 0.0% | - | - |
| Steel Food Cans | 1.5% | 0.3% | 455 | 80 | Non-distinct Fines | 1.0% | 0.3% | 318 | 85 |
| Other Ferrous Metal | 1.2% | 0.5% | 363 | 152 | Misc Organics | 0.1% | 0.1% | 26 | 19 |
| Mixed Metals or Materials | 0.4% | 0.1% | 114 | 38 | Misc Inorganics | 0.0% | 0.0% | 9 | 5 |
| Metal Oil Filters | 0.0% | 0.0% | - | - | PPE | 0.0% | 0.0% | 10 | 4 |
| Estimated Total | 100% | | 30,637 | | | | | | |
| Sample Count | | | | 75 | | | | | |

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

Table 43: Recycling Composition by Demographic Quartiles – Median Household Income – First Quartile

| Material | Est. Percent | + / - | Material | Est. Percent | + / - |
|---------------------------------------------------------------------------------------------------------------------------------|--------------|-------------|-----------------------------------|--------------|-------------|
| PAPER | 54.5% | 2.6% | COMPOSTABLE ORGANICS | 0.8% | 0.4% |
| Newspaper | 6.0% | 0.9% | Leaves and Grass | 0.0% | 0.0% |
| Plain OCC or Kraft Paper | 20.4% | 2.2% | Prunings | 0.0% | 0.0% |
| Grocery or Shopping Bags | 3.8% | 0.4% | Fats, Oils, and Grease | 0.0% | 0.0% |
| Paper Packaging | 6.2% | 0.5% | Edible Food Scraps - Packaged | 0.4% | 0.3% |
| Paper Products | 15.0% | 1.4% | Edible Food Scraps - Non-Packaged | 0.2% | 0.1% |
| Compostable or Soiled Paper Products | 0.4% | 0.1% | Non-Edible Food Scraps | 0.2% | 0.1% |
| Compostable Food Service Paper Packaging | 0.2% | 0.1% | Other Compostable Organics | 0.0% | 0.0% |
| Non-Comp Food Service Paper Packaging | 0.3% | 0.0% | OTHER ORGANICS | 0.5% | 0.2% |
| Waxed OCC or Kraft Paper | 0.1% | 0.1% | Textiles | 0.3% | 0.1% |
| Shredded Paper | 0.0% | 0.1% | Mixed Textiles | 0.1% | 0.1% |
| Asseptic Containers | 0.3% | 0.0% | Disposable Diapers | 0.1% | 0.1% |
| Gable Top Containers | 0.8% | 0.1% | Animal By-products | 0.1% | 0.1% |
| Other Polycoated Containers | 0.2% | 0.1% | Rubber Products | 0.0% | 0.0% |
| Mixed or Other Paper | 0.9% | 0.4% | Tires | 0.0% | 0.0% |
| PLASTIC | 8.8% | 0.7% | Furniture | 0.0% | 0.0% |
| PET Bottles | 2.0% | 0.2% | FURNITURE AND ELECTRONICS | 0.0% | 0.0% |
| HDPE Natural Bottles | 0.5% | 0.1% | Mattresses | 0.0% | 0.0% |
| HDPE Colored Bottles | 0.6% | 0.1% | Small Appliances | 0.0% | 0.0% |
| PP Bottles | 0.1% | 0.1% | Fluorescent Tubes and CFLs | 0.0% | 0.0% |
| Other Plastic Bottles | 0.0% | 0.0% | LED Lighting | 0.0% | 0.0% |
| PET Non-Bottle Packaging | 1.4% | 0.1% | Rechargeable Batteries | 0.0% | 0.0% |
| HDPE Non-Bottle Packaging | 0.2% | 0.1% | Other Dry-cell Batteries | 0.0% | 0.0% |
| PP Non-Bottle Packaging | 1.1% | 0.1% | Wet-cell Batteries | 0.0% | 0.0% |
| Other Non-Bottle Plastic Packaging | 0.3% | 0.0% | E-Cycle WA Electronics | 0.0% | 0.0% |
| Compostable Food Service Plastic Utensils | 0.0% | 0.0% | Non-E-Cycle WA Electronics | 0.0% | 0.0% |
| Compostable Food Service Plastic Packaging | 0.0% | 0.0% | C&D | 0.3% | 0.1% |
| Non-Comp Food Service Plastic Utensils | 0.0% | 0.0% | Clean Dimension Lumber | 0.0% | 0.0% |
| Non-Comp Food Service Plastic Packaging | 0.4% | 0.1% | Clean Engineered Wood | 0.0% | 0.0% |
| Takeout and Retail Plastic Bags | 0.1% | 0.0% | Other Untreated Wood | 0.1% | 0.1% |
| Other Clean PE Film | 0.4% | 0.2% | Crates or Boxes or Pallets | 0.0% | 0.0% |
| Stretch Wrap | 0.0% | 0.0% | New Painted Wood | 0.0% | 0.0% |
| Other Plastic Film | 0.4% | 0.1% | Old Painted Wood | 0.0% | 0.0% |
| Mailers | 0.1% | 0.0% | Cresote-treated Wood | 0.0% | 0.0% |
| Pouches | 0.0% | 0.0% | Other Treated Wood | 0.0% | 0.0% |
| Compostable Plastic Bags | 0.0% | 0.0% | Contaminated Wood | 0.0% | 0.0% |
| Plastic Garbage Bags | 0.1% | 0.0% | New Gypsum Scrap | 0.0% | 0.0% |
| EPS Food-grade | 0.0% | 0.0% | Demo Gypsum Scrap | 0.0% | 0.0% |
| Rigid Polystyrene Foam Insulation | 0.0% | 0.0% | Carpet | 0.0% | 0.0% |
| EPS Non-food Grade | 0.1% | 0.0% | Felt Carpet Pad | 0.0% | 0.0% |
| Large Durable Plastic Products | 0.2% | 0.2% | Fiberglass Insulation | 0.1% | 0.1% |
| Small Durable Plastic Products | 0.4% | 0.1% | Rock or Concrete or Brick | 0.0% | 0.0% |
| Plastic or Other Materials | 0.2% | 0.1% | Ceramics | 0.1% | 0.1% |
| GLASS | 27.2% | 2.5% | Asphaltic Roofing | 0.0% | 0.0% |
| Clear Beverage Glass Bottles | 5.4% | 0.7% | Other Construction Debris | 0.0% | 0.0% |
| Green Beverage Glass Bottles | 7.4% | 1.1% | Liquid Latex Paints | 0.0% | 0.0% |
| Brown Beverage Glass Bottles | 2.3% | 0.5% | HAZARDOUS WASTE | 0.1% | 0.1% |
| Container Glass | 1.3% | 0.2% | Oil-based Paints | 0.0% | 0.0% |
| Other Glass | 0.4% | 0.1% | Other Potentially Harmful Wastes | 0.0% | 0.1% |
| Mixed Cullet | 10.4% | 1.8% | Medical Waste | 0.0% | 0.0% |
| METAL | 5.5% | 0.6% | Non-Caustic Cleaners or Chemicals | 0.0% | 0.0% |
| Aluminum Cans | 2.5% | 0.2% | Pharmaceuticals and Medications | 0.0% | 0.0% |
| Aluminum Foil or Containers | 0.2% | 0.0% | Vitamins and Supplements | 0.0% | 0.0% |
| Other Nonferrous Metal | 0.1% | 0.1% | Personal Care or Cosmetics | 0.0% | 0.0% |
| Other Aluminum | 0.1% | 0.1% | FINES AND MISC | 2.2% | 1.1% |
| Empty Aerosol Cans | 0.0% | 0.0% | Sand, Soil or Dirt | 0.0% | 0.0% |
| Steel Food Cans | 1.6% | 0.1% | Non-distinct Fines | 2.0% | 1.1% |
| Other Ferrous Metal | 0.6% | 0.4% | Misc Organics | 0.1% | 0.1% |
| Mixed Metals or Materials | 0.4% | 0.2% | Misc Inorganics | 0.1% | 0.1% |
| Metal Oil Filters | 0.0% | 0.0% | PPE | 0.0% | 0.0% |
| Estimated Total | 100% | | | | |
| Sample Count | 62 | | | | |
| Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding. | | | | | |

Table 44: Recycling Composition by Demographic Quartiles – Median Household Income – Fourth Quartile

| Material | Est. Percent | + / - | Material | Est. Percent | + / - |
|--------------------------------------------|--------------|-------------|-----------------------------------|--------------|-------------|
| PAPER | 49.1% | 2.8% | COMPOSTABLE ORGANICS | 1.0% | 0.4% |
| Newspaper | 4.7% | 0.7% | Leaves and Grass | 0.0% | 0.1% |
| Plain OCC or Kraft Paper | 17.2% | 1.8% | Prunings | 0.0% | 0.0% |
| Grocery or Shopping Bags | 3.6% | 0.4% | Fats, Oils, and Grease | 0.0% | 0.0% |
| Paper Packaging | 7.4% | 0.6% | Edible Food Scraps - Packaged | 0.8% | 0.3% |
| Paper Products | 12.9% | 1.5% | Edible Food Scraps - Non-Packaged | 0.1% | 0.1% |
| Compostable or Soiled Paper Products | 0.5% | 0.2% | Non-Edible Food Scraps | 0.1% | 0.0% |
| Compostable Food Service Paper Packaging | 0.3% | 0.1% | Other Compostable Organics | 0.0% | 0.0% |
| Non-Comp Food Service Paper Packaging | 0.2% | 0.0% | OTHER ORGANICS | 0.9% | 0.4% |
| Waxed OCC or Kraft Paper | 0.2% | 0.2% | Textiles | 0.2% | 0.1% |
| Shredded Paper | 0.0% | 0.1% | Mixed Textiles | 0.2% | 0.1% |
| Aseptic Containers | 0.3% | 0.0% | Disposable Diapers | 0.1% | 0.0% |
| Gable Top Containers | 0.7% | 0.1% | Animal By-products | 0.1% | 0.2% |
| Other Polycoated Containers | 0.2% | 0.1% | Rubber Products | 0.3% | 0.3% |
| Mixed or Other Paper | 0.9% | 0.3% | Tires | 0.0% | 0.0% |
| | | | Furniture | 0.0% | 0.0% |
| PLASTIC | 11.3% | 1.1% | FURNITURE AND ELECTRONICS | 0.1% | 0.1% |
| PET Bottles | 2.8% | 0.3% | Mattresses | 0.0% | 0.0% |
| HDPE Natural Bottles | 0.7% | 0.1% | Small Appliances | 0.0% | 0.0% |
| HDPE Colored Bottles | 0.7% | 0.1% | Fluorescent Tubes and CFLs | 0.0% | 0.0% |
| PP Bottles | 0.1% | 0.0% | LED Lighting | 0.0% | 0.0% |
| Other Plastic Bottles | 0.0% | 0.0% | Rechargeable Batteries | 0.0% | 0.0% |
| PET Non-Bottle Packaging | 1.6% | 0.2% | Other Dry-cell Batteries | 0.0% | 0.0% |
| HDPE Non-Bottle Packaging | 0.2% | 0.1% | Wet-cell Batteries | 0.0% | 0.0% |
| PP Non-Bottle Packaging | 1.1% | 0.2% | E-Cycle WA Electronics | 0.0% | 0.0% |
| Other Non-Bottle Plastic Packaging | 0.4% | 0.1% | Non-E-Cycle WA Electronics | 0.1% | 0.1% |
| Compostable Food Service Plastic Utensils | 0.0% | 0.0% | C&D | 0.3% | 0.2% |
| Compostable Food Service Plastic Packaging | 0.0% | 0.0% | Clean Dimension Lumber | 0.0% | 0.0% |
| Non-Comp Food Service Plastic Utensils | 0.1% | 0.1% | Clean Engineered Wood | 0.0% | 0.0% |
| Non-Comp Food Service Plastic Packaging | 0.5% | 0.1% | Other Untreated Wood | 0.0% | 0.0% |
| Takeout and Retail Plastic Bags | 0.2% | 0.0% | Crates or Boxes or Pallets | 0.0% | 0.0% |
| Other Clean PE Film | 0.2% | 0.0% | New Painted Wood | 0.1% | 0.1% |
| Stretch Wrap | 0.0% | 0.0% | Old Painted Wood | 0.0% | 0.1% |
| Other Plastic Film | 0.6% | 0.1% | Creosote-treated Wood | 0.0% | 0.0% |
| Mailers | 0.1% | 0.0% | Other Treated Wood | 0.0% | 0.0% |
| Pouches | 0.0% | 0.0% | Contaminated Wood | 0.0% | 0.0% |
| Compostable Plastic Bags | 0.0% | 0.0% | New Gypsum Scrap | 0.0% | 0.0% |
| Plastic Garbage Bags | 0.1% | 0.0% | Demo Gypsum Scrap | 0.0% | 0.0% |
| EPS Food-grade | 0.0% | 0.0% | Carpet | 0.0% | 0.0% |
| Rigid Polystyrene Foam Insulation | 0.0% | 0.0% | Felt Carpet Pad | 0.0% | 0.0% |
| EPS Non-food Grade | 0.1% | 0.0% | Fiberglass Insulation | 0.0% | 0.0% |
| Large Durable Plastic Products | 0.2% | 0.1% | Rock or Concrete or Brick | 0.0% | 0.0% |
| Small Durable Plastic Products | 1.1% | 0.7% | Ceramics | 0.1% | 0.1% |
| Plastic or Other Materials | 0.4% | 0.1% | Asphaltic Roofing | 0.0% | 0.0% |
| GLASS | 27.0% | 2.7% | Other Construction Debris | 0.0% | 0.0% |
| Clear Beverage Glass Bottles | 6.0% | 1.0% | Liquid Latex Paints | 0.0% | 0.0% |
| Green Beverage Glass Bottles | 7.6% | 1.1% | HAZARDOUS WASTE | 0.0% | 0.0% |
| Brown Beverage Glass Bottles | 2.8% | 0.5% | Oil-based Paints | 0.0% | 0.0% |
| Container Glass | 2.4% | 0.4% | Other Potentially Harmful Wastes | 0.0% | 0.0% |
| Other Glass | 0.2% | 0.1% | Medical Waste | 0.0% | 0.0% |
| Mixed Cullet | 8.0% | 1.7% | Non-Caustic Cleaners or Chemicals | 0.0% | 0.0% |
| METAL | 6.9% | 0.7% | Pharmaceuticals and Medications | 0.0% | 0.0% |
| Aluminum Cans | 2.8% | 0.3% | Vitamins and Supplements | 0.0% | 0.0% |
| Aluminum Foil or Containers | 0.2% | 0.0% | Personal Care or Cosmetics | 0.0% | 0.0% |
| Other Nonferrous Metal | 0.4% | 0.3% | FINES AND MISC | 3.3% | 1.6% |
| Other Aluminum | 0.1% | 0.1% | Sand, Soil or Dirt | 0.0% | 0.0% |
| Empty Aerosol Cans | 0.1% | 0.0% | Non-distinct Fines | 3.0% | 1.6% |
| Steel Food Cans | 1.9% | 0.2% | Misc Organics | 0.1% | 0.1% |
| Other Ferrous Metal | 1.0% | 0.5% | Misc Inorganics | 0.2% | 0.2% |
| Mixed Metals or Materials | 0.5% | 0.1% | PPE | 0.0% | 0.0% |
| Metal Oil Filters | 0.0% | 0.0% | | | |
| Estimated Total | 100% | | | | |
| Sample Count | 52 | | | | |

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

Table 45: Recycling Composition by Demographic Quartiles - Average Household Size – First Quartile

| Material | Est. Percent | +/- | Material | Est. Percent | +/- |
|--------------------------------------------|--------------|-------------|-----------------------------------|--------------|-------------|
| PAPER | 52.3% | 3.5% | COMPOSTABLE ORGANICS | 1.5% | 0.5% |
| Newspaper | 5.5% | 1.1% | Leaves and Grass | 0.0% | 0.1% |
| Plain OCC or Kraft Paper | 20.5% | 2.4% | Prunings | 0.0% | 0.0% |
| Grocery or Shopping Bags | 3.2% | 0.4% | Fats, Oils, and Grease | 0.0% | 0.0% |
| Paper Packaging | 6.3% | 0.5% | Edible Food Scraps - Packaged | 1.0% | 0.4% |
| Paper Products | 13.5% | 1.9% | Edible Food Scraps - Non-Packaged | 0.3% | 0.2% |
| Compostable or Soiled Paper Products | 0.5% | 0.2% | Non-Edible Food Scraps | 0.1% | 0.1% |
| Compostable Food Service Paper Packaging | 0.3% | 0.1% | Other Compostable Organics | 0.1% | 0.1% |
| Non-Comp Food Service Paper Packaging | 0.3% | 0.1% | OTHER ORGANICS | 1.0% | 0.5% |
| Waxed OCC or Kraft Paper | 0.1% | 0.1% | Textiles | 0.3% | 0.2% |
| Shredded Paper | 0.1% | 0.1% | Mixed Textiles | 0.1% | 0.1% |
| Aseptic Containers | 0.3% | 0.0% | Disposable Diapers | 0.1% | 0.1% |
| Gable Top Containers | 0.6% | 0.1% | Animal By-products | 0.2% | 0.2% |
| Other Polycoated Containers | 0.2% | 0.1% | Rubber Products | 0.3% | 0.4% |
| Mixed or Other Paper | 0.9% | 0.5% | Tires | 0.0% | 0.0% |
| | | | Furniture | 0.0% | 0.0% |
| PLASTIC | 10.6% | 1.1% | FURNITURE AND ELECTRONICS | 0.1% | 0.1% |
| PET Bottles | 2.6% | 0.3% | Mattresses | 0.0% | 0.0% |
| HDPE Natural Bottles | 0.7% | 0.1% | Small Appliances | 0.0% | 0.0% |
| HDPE Colored Bottles | 0.7% | 0.1% | Fluorescent Tubes and CFLs | 0.0% | 0.0% |
| PP Bottles | 0.1% | 0.0% | LED Lighting | 0.0% | 0.0% |
| Other Plastic Bottles | 0.0% | 0.0% | Rechargeable Batteries | 0.0% | 0.0% |
| PET Non-Bottle Packaging | 1.3% | 0.2% | Other Dry-cell Batteries | 0.0% | 0.0% |
| HDPE Non-Bottle Packaging | 0.2% | 0.1% | Wet-cell Batteries | 0.0% | 0.0% |
| PP Non-Bottle Packaging | 1.0% | 0.2% | E-Cycle WA Electronics | 0.0% | 0.0% |
| Other Non-Bottle Plastic Packaging | 0.4% | 0.1% | Non-E-Cycle WA Electronics | 0.1% | 0.1% |
| Compostable Food Service Plastic Utensils | 0.0% | 0.0% | C&D | 0.3% | 0.2% |
| Compostable Food Service Plastic Packaging | 0.0% | 0.0% | Clean Dimension Lumber | 0.0% | 0.0% |
| Non-Comp Food Service Plastic Utensils | 0.0% | 0.0% | Clean Engineered Wood | 0.1% | 0.0% |
| Non-Comp Food Service Plastic Packaging | 0.4% | 0.1% | Other Untreated Wood | 0.0% | 0.0% |
| Takeout and Retail Plastic Bags | 0.2% | 0.1% | Crates or Boxes or Pallets | 0.0% | 0.0% |
| Other Clean PE Film | 0.3% | 0.1% | New Painted Wood | 0.1% | 0.1% |
| Stretch Wrap | 0.0% | 0.0% | Old Painted Wood | 0.0% | 0.0% |
| Other Plastic Film | 0.6% | 0.1% | Creosote-treated Wood | 0.0% | 0.0% |
| Mailers | 0.1% | 0.0% | Other Treated Wood | 0.0% | 0.0% |
| Pouches | 0.0% | 0.0% | Contaminated Wood | 0.0% | 0.0% |
| Compostable Plastic Bags | 0.0% | 0.0% | New Gypsum Scrap | 0.0% | 0.0% |
| Plastic Garbage Bags | 0.2% | 0.0% | Demo Gypsum Scrap | 0.0% | 0.0% |
| EPS Food-grade | 0.0% | 0.0% | Carpet | 0.0% | 0.0% |
| Rigid Polystyrene Foam Insulation | 0.0% | 0.0% | Felt Carpet Pad | 0.0% | 0.0% |
| EPS Non-food Grade | 0.1% | 0.0% | Fiberglass Insulation | 0.0% | 0.0% |
| Large Durable Plastic Products | 0.3% | 0.2% | Rock or Concrete or Brick | 0.0% | 0.0% |
| Small Durable Plastic Products | 0.8% | 0.4% | Ceramics | 0.1% | 0.0% |
| Plastic or Other Materials | 0.3% | 0.1% | Asphaltic Roofing | 0.0% | 0.0% |
| GLASS | 27.1% | 3.2% | Other Construction Debris | 0.0% | 0.0% |
| Clear Beverage Glass Bottles | 6.0% | 1.2% | Liquid Latex Paints | 0.0% | 0.0% |
| Green Beverage Glass Bottles | 7.4% | 1.3% | HAZARDOUS WASTE | 0.1% | 0.1% |
| Brown Beverage Glass Bottles | 2.9% | 0.7% | Oil-based Paints | 0.0% | 0.0% |
| Container Glass | 1.8% | 0.3% | Other Potentially Harmful Wastes | 0.0% | 0.0% |
| Other Glass | 0.1% | 0.1% | Medical Waste | 0.0% | 0.0% |
| Mixed Cullet | 8.9% | 2.1% | Non-Caustic Cleaners or Chemicals | 0.0% | 0.0% |
| METAL | 5.3% | 0.5% | Pharmaceuticals and Medications | 0.0% | 0.0% |
| Aluminum Cans | 2.2% | 0.3% | Vitamins and Supplements | 0.0% | 0.0% |
| Aluminum Foil or Containers | 0.2% | 0.1% | Personal Care or Cosmetics | 0.0% | 0.0% |
| Other Nonferrous Metal | 0.2% | 0.1% | FINES AND MISC | 1.7% | 0.6% |
| Other Aluminum | 0.0% | 0.0% | Sand, Soil or Dirt | 0.0% | 0.0% |
| Empty Aerosol Cans | 0.1% | 0.0% | Non-distinct Fines | 1.5% | 0.6% |
| Steel Food Cans | 1.7% | 0.2% | Misc Organics | 0.1% | 0.1% |
| Other Ferrous Metal | 0.7% | 0.4% | Misc Inorganics | 0.1% | 0.1% |
| Mixed Metals or Materials | 0.2% | 0.1% | PPE | 0.0% | 0.0% |
| Metal Oil Filters | 0.0% | 0.0% | | | |
| Estimated Total | 100% | | | | |
| Sample Count | 44 | | | | |

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

Table 46: Recycling Composition by Demographic Quartiles - Average Household Size – Fourth Quartile

| Material | Est. Percent | +/- | Material | Est. Percent | +/- |
|--------------------------------------------|--------------|-------------|-----------------------------------|--------------|-------------|
| PAPER | 52.7% | 2.1% | COMPOSTABLE ORGANICS | 0.6% | 0.4% |
| Newspaper | 5.4% | 0.7% | Leaves and Grass | 0.0% | 0.0% |
| Plain OCC or Kraft Paper | 19.2% | 1.7% | Prunings | 0.0% | 0.0% |
| Grocery or Shopping Bags | 3.9% | 0.4% | Fats, Oils, and Grease | 0.0% | 0.0% |
| Paper Packaging | 7.0% | 0.6% | Edible Food Scraps - Packaged | 0.4% | 0.3% |
| Paper Products | 14.0% | 1.4% | Edible Food Scraps - Non-Packaged | 0.0% | 0.0% |
| Compostable or Soiled Paper Products | 0.4% | 0.1% | Non-Edible Food Scraps | 0.1% | 0.1% |
| Compostable Food Service Paper Packaging | 0.2% | 0.1% | Other Compostable Organics | 0.0% | 0.0% |
| Non-Comp Food Service Paper Packaging | 0.3% | 0.0% | OTHER ORGANICS | 0.5% | 0.2% |
| Waxed OCC or Kraft Paper | 0.0% | 0.0% | Textiles | 0.2% | 0.1% |
| Shredded Paper | 0.1% | 0.1% | Mixed Textiles | 0.2% | 0.1% |
| Aseptic Containers | 0.2% | 0.0% | Disposable Diapers | 0.1% | 0.1% |
| Gable Top Containers | 0.7% | 0.1% | Animal By-products | 0.0% | 0.0% |
| Other Polycoated Containers | 0.1% | 0.1% | Rubber Products | 0.0% | 0.0% |
| Mixed or Other Paper | 1.2% | 0.4% | Tires | 0.0% | 0.0% |
| | | | Furniture | 0.0% | 0.0% |
| PLASTIC | 9.8% | 0.8% | FURNITURE AND ELECTRONICS | 0.1% | 0.0% |
| PET Bottles | 2.3% | 0.2% | Mattresses | 0.0% | 0.0% |
| HDPE Natural Bottles | 0.6% | 0.1% | Small Appliances | 0.0% | 0.0% |
| HDPE Colored Bottles | 0.6% | 0.1% | Fluorescent Tubes and CFLs | 0.0% | 0.0% |
| PP Bottles | 0.1% | 0.0% | LED Lighting | 0.0% | 0.0% |
| Other Plastic Bottles | 0.0% | 0.0% | Rechargeable Batteries | 0.0% | 0.0% |
| PET Non-Bottle Packaging | 1.5% | 0.1% | Other Dry-cell Batteries | 0.0% | 0.0% |
| HDPE Non-Bottle Packaging | 0.2% | 0.1% | Wet-cell Batteries | 0.0% | 0.0% |
| PP Non-Bottle Packaging | 1.2% | 0.2% | E-Cycle WA Electronics | 0.0% | 0.0% |
| Other Non-Bottle Plastic Packaging | 0.4% | 0.1% | Non-E-Cycle WA Electronics | 0.0% | 0.0% |
| Compostable Food Service Plastic Utensils | 0.0% | 0.0% | C&D | 0.3% | 0.1% |
| Compostable Food Service Plastic Packaging | 0.0% | 0.0% | Clean Dimension Lumber | 0.0% | 0.0% |
| Non-Comp Food Service Plastic Utensils | 0.0% | 0.0% | Clean Engineered Wood | 0.0% | 0.1% |
| Non-Comp Food Service Plastic Packaging | 0.3% | 0.1% | Other Untreated Wood | 0.0% | 0.0% |
| Takeout and Retail Plastic Bags | 0.1% | 0.0% | Crates or Boxes or Pallets | 0.0% | 0.0% |
| Other Clean PE Film | 0.3% | 0.1% | New Painted Wood | 0.0% | 0.0% |
| Stretch Wrap | 0.0% | 0.0% | Old Painted Wood | 0.0% | 0.0% |
| Other Plastic Film | 0.5% | 0.1% | Creosote-treated Wood | 0.0% | 0.0% |
| Mailers | 0.1% | 0.0% | Other Treated Wood | 0.0% | 0.0% |
| Pouches | 0.0% | 0.0% | Contaminated Wood | 0.0% | 0.0% |
| Compostable Plastic Bags | 0.0% | 0.0% | New Gypsum Scrap | 0.0% | 0.0% |
| Plastic Garbage Bags | 0.1% | 0.0% | Demo Gypsum Scrap | 0.0% | 0.0% |
| EPS Food-grade | 0.0% | 0.0% | Carpet | 0.0% | 0.0% |
| Rigid Polystyrene Foam Insulation | 0.0% | 0.0% | Felt Carpet Pad | 0.0% | 0.0% |
| EPS Non-food Grade | 0.1% | 0.0% | Fiberglass Insulation | 0.0% | 0.0% |
| Large Durable Plastic Products | 0.1% | 0.1% | Rock or Concrete or Brick | 0.0% | 0.0% |
| Small Durable Plastic Products | 0.8% | 0.5% | Ceramics | 0.1% | 0.1% |
| Plastic or Other Materials | 0.3% | 0.2% | Asphaltic Roofing | 0.0% | 0.0% |
| GLASS | 26.9% | 1.9% | Other Construction Debris | 0.0% | 0.0% |
| Clear Beverage Glass Bottles | 5.5% | 0.7% | Liquid Latex Paints | 0.0% | 0.0% |
| Green Beverage Glass Bottles | 7.4% | 1.1% | HAZARDOUS WASTE | 0.1% | 0.1% |
| Brown Beverage Glass Bottles | 2.8% | 0.5% | Oil-based Paints | 0.0% | 0.0% |
| Container Glass | 1.6% | 0.3% | Other Potentially Harmful Wastes | 0.0% | 0.0% |
| Other Glass | 0.3% | 0.1% | Medical Waste | 0.0% | 0.0% |
| Mixed Cullet | 9.3% | 1.8% | Non-Caustic Cleaners or Chemicals | 0.1% | 0.1% |
| METAL | 6.2% | 0.6% | Pharmaceuticals and Medications | 0.0% | 0.0% |
| Aluminum Cans | 2.8% | 0.2% | Vitamins and Supplements | 0.0% | 0.0% |
| Aluminum Foil or Containers | 0.2% | 0.0% | Personal Care or Cosmetics | 0.0% | 0.0% |
| Other Nonferrous Metal | 0.3% | 0.3% | FINES AND MISC | 2.9% | 1.4% |
| Other Aluminum | 0.1% | 0.1% | Sand, Soil or Dirt | 0.0% | 0.0% |
| Empty Aerosol Cans | 0.0% | 0.0% | Non-distinct Fines | 2.7% | 1.3% |
| Steel Food Cans | 1.7% | 0.2% | Misc Organics | 0.1% | 0.0% |
| Other Ferrous Metal | 0.9% | 0.4% | Misc Inorganics | 0.1% | 0.2% |
| Mixed Metals or Materials | 0.3% | 0.1% | PPE | 0.0% | 0.0% |
| Metal Oil Filters | 0.0% | 0.0% | | | |
| Estimated Total | 100% | | | | |
| Sample Count | 59 | | | | |

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.